ANIMAL PLANT HEALTH INSPECTION SERVICE

FACILITY: **Moore Air Force Base**
McAllen, Texas

STATUS: Non-Docket. Non-NPL

NARRATIVE: APHIS initiated an investigation into the historical waste disposal activities at Moore Air Base, located near McAllen, Texas. The facility was a World War II Army Air Corps facility, constructed in 1941. Management of the property was transferred to APHIS approximately 40 years ago. APHIS has used the facility for a number of program activities, including pesticide bait formulation, and aerial activity. One activity in 1962, may have resulted in water contamination in a well. Former program activities may have resulted in the burial of other materials which may affect the environment. A preliminary site assessment of the entire facility began in FY 2000 to locate burial sites, identify other environmental impacts which may be present on the property (Phase 1), and to assess the need for response actions (Phase 2).

FY 2000 WORK: Ongoing work on the Phase 1 assessment.

FACILITY: **Tick Eradication Program Facilities**
Cameron, Val Verde, Zapata, Starr, Hidalgo, and
Maverick Counties, Texas

STATUS: Non-docket. Non-NPL

NARRATIVE: APHIS, the Texas Animal Health Commission, and other local agencies and cooperators have operated Tick Eradication Programs in the State of Texas. An investigation was initiated to assess the environmental impact of the pesticide waste materials being generated, which are disposed on site following biological treatment in waste lagoons. The investigation also included an assessment of potential hazardous substance contamination from past activities. There is a potential for as many as 200 sites that may need assessment. APHIS, the State of Texas, and Maverick County have initiated the cleanup of one site which dates back to the early 1940's. The Maverick County site should be completed in FY 01.

FY 2000 WORK: Ongoing work on the site assessment. Cleanup of the Maverick site initiated.

AGRICULTURAL RESEARCH SERVICE

FACILITY: **Henry A. Wallace Beltsville Agricultural Research Center (BARC) Beltsville, Maryland**

STATUS: Docket. National Priorities List (NPL) (Federal). (Listed on first docket in 1986 and listed on the NPL in May 1994.)

NARRATIVE: A $45,251 contract for a preliminary assessment (PA) of the entire location, plus the first phase of an Environmental Site Assessment (ESA) of a parcel of land to be sold to the Washington Metropolitan Area Transit Authority (Biodegradable Site) was awarded in April 1990. Forty-four sites with the potential to contain hazardous substances/waste were identified for evaluation. Sixteen of these sites had a site inspection (SI) performed. The Environmental Protection Agency (EPA), through aerial photographs, identified what it considers to be 92 areas of concern. The 92 areas of concern included the 44 sites identified in the PA.

A PA/SI report and remediation of a small site was completed in May 1991 at a final cost of $136,958. The PA/SI report was submitted to EPA and the State of Maryland in June 1991. The Hazard Ranking System (HRS) Preliminary Ranking Evaluation score (PREscore) range for BARC was 41.54 to 52.46, suggesting the need for NPL listing and remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In August 1991, a $362,416 contract was awarded for a second phase ESA of the Biodegradable Site to determine the extent of contamination and remediation required to meet General Services Administration (GSA) and CERCLA property transfer regulations.

A contract was awarded on September 30, 1992, to remediate the Biodegradable Site. The award was for $6.637 million. The contractor completed excavation and backfilling of the site and demobilized on February 1, 1994. The contractor submitted a delay claim of $1.269 million and a claim for additional quantities of $1.741 million in association with the cleanup of the Biodegradable Site. On August 22, 1995, the Agricultural Research Service (ARS), Facilities Contracts Branch (FCB), modified the contract in order to pay the contractor $1.290 million for the undisputed portion of the claim. In 1996, FCB settled the disputed portion of the contract claim for $574,606, bringing the total amount spent for this remediation to $8.504 million.

On May 31, 1994, the BARC was listed on the NPL with an HRS score of 50.0, primarily because of a release to surface water from the Biodegradable Site.

An Indefinite Quantity Contract for investigative and remedial services was awarded on August 25, 1995. The first Task Order (FY-95: $360,253; FY-96: $59,044) was issued to provide aerial photo analysis, field reconnaissance, and develop a desktop evaluation workplan. A second Task Order ($367,399) was issued to sample existing monitoring wells and install new monitoring wells at the low-level radiation burial site.

Task Order 4 was awarded (FY 96: $131,178) to implement the Desktop Evaluation Workplan.

In September 1995, representatives from the Agency for Toxic Substances and Disease Registry (ATSDR) conducted a site review as part of the NPL process. The ATSDR concluded that BARC was a low priority for a public health assessment, but they were concerned about the bottles and debris at several Areas of Concern (AOC=s). The ATSDR recommended, and EPA and the State of Maryland requested, the removal of bottles and debris spread over up to 70 acres at one of the sites. In response, ARS awarded Task Order 5 ($436,850) to conduct the debris removal at four AOC=s.

Task Order 6 was awarded ($611,753) to complete the remedial investigation/feasibility study (RI/FS) at the Biodegradable Site. Task Order 7 was awarded ($166,991) to develop a Site Management Plan and an information repository for administrative records. Task Order 8 was awarded ($309,325) to begin the site screening process (SSP) at three sites. This Task Order was later modified to add two sites in the process at an additional cost of $136,767.

In FY 1997, Task Order 2 was modified ($129,041) to include additional rounds of sampling at the low-level radiation burial site and the preparation of a Master Risk Assessment Plan used to guide work throughout the RI/FS process. Task Order 4 was modified ($37,130) to account for the increased number of AOC=s identified through the desktop data collection process. Task Order 8 was expanded ($1.928 million) to address an additional 33 AOC=s. Task Order 5 was modified ($37,313) to conduct debris removal at 20 additional AOC=s. Also, through an interagency agreement with the Department of Energy=s HAZWRAP program, ARS obligated $503,000 to conduct additional debris removals at 20 AOC=s. Analysis of aerial photographs, field reconnaissance, and desktop data evaluation were completed. The total

number of AOC=s, as identified by the earlier PA work, aerial photos, and field reconnaissance, increased to 166.

Also in 1997, an additional eight monitoring wells were installed and sampled at the low-level radiation burial site. Results indicated a release of chloroform and several radionucleides to the ground water.

In FY 1998, Task Order 7 was modified ($24,209) to account for additional funding required for the scanning of documents needed for the information repository.

Task Order 17 was awarded ($999,911) to conduct an RI/FS at a 30-acre sanitary landfill operated by the city of College Park and to conduct site screenings at an additional five AOC=s.

In May 1998, after 5 years of negotiations (with Office of the General Counsel (OGC) assistance) ARS entered into a Federal Facilities Agreement (FFA) with EPA. The FFA provides the framework for ARS work under CERCLA. The first Site Management Plan required by the agreement was submitted on June 15, 1998.

In December 1998, EPA approved the Desktop Data Collection Report that evaluated all 165 AOC=s and recommended that 106 AOC=s be eliminated from further consideration under CERCLA, leaving 59 AOC=s to be studied further under the SSP and/or RI/FS.

Also in 1998, fieldwork was completed for site screenings at the first 12 AOC=s. Surface debris removals were completed at 44 AOC=s.

Because the low-level radiation burial site was operated under a license with the Nuclear Regulatory Commission (NRC) and contains hazardous substances regulated by EPA, both agencies have regulatory oversight of this AOC. Based upon discussions with both agencies, it was agreed that a non-time critical removal action could address both NRC decommissioning requirements, as well as eliminating further release of hazardous substances. Therefore, Task Order 2 was modified ($107,879) to prepare an Engineering Evaluation/Cost Analysis (EE/CA), with comments to be provided by both the NRC and the EPA.

In 1999, Task Order 17 was modified ($467,886) to initiate Geographic Information System (GIS) work and to complete the SSP at the remaining AOC=s. Task Order 7 was modified ($87,331) to complete additional

modifications to the Site Management Plan and to update the information repository. Task Order 19 was awarded ($706,873) to conduct an RI/FS at the Chemical Disposal Pits (BARC 12), an area where chemicals were known to have been disposed in the 1950's and 1960's.

Field work was completed at an additional 26 AOC=s in 1999. A draft SSP report was submitted to EPA for comment. However, due to changing EPA policies concerning ecological risks, this document was not finalized. Further discussions with EPA continued through 1999.

A draft EE/CA for the low-level radiation burial site was submitted to the NRC and EPA for review. EPA had no comments, and the NRC=s comments were not received until 2000.

In March 1999, ATSDR returned to collect data for a public health assessment at BARC. ATSDR is currently preparing the public health assessment.

FY 2000 WORK: In 2000, Task Order 6 was modified ($173,170) to account for additional ground water modeling, and rounds of monitoring well sampling required to complete the RI/FS at the Biodegradable Site. The draft RI/FS was submitted to EPA in June 2000. EPA provided comments, and the ARS contractor is preparing a response.

Task Order 6 was further modified ($161,751) to perform AStep 3a@ of EPA=s screening ecological risk assessment process and to install three additional monitoring wells at the Biodegradable Site. The monitoring wells are required to provide boundary monitoring of an offsite plume.

Task Order 17 was modified ($416,087) for RI/FS work at a number of AOC=s, and collection of an aerial photo that will serve as the base map for the GIS work.

Task Order 7 was modified ($59,013) to revise the site management plan. Task Order 19 was modified ($18,192) to begin RI/FS work at a number of chemical disposal pits.

Task Order 22 was awarded ($372,934) to conduct removal actions addressing soil contamination at several AOC=s. It is anticipated that these removals will be conducted in lieu of more expensive RI/FS work.

Task Order 9 was modified ($13,629) to conduct additional SSP work at a number of AOC=s. SSP field work has now been completed at the remaining 25 AOC=s. Results from all of the fieldwork will be evaluated

as part of a facility wide baseline ecological risk assessment, reducing the effort required for each AOC. Human health issues will be evaluated on an AOC-by-AOC basis.

Task Order 2 was modified ($190,288) to install monitoring wells at the low-level radiation burial site. Comments were received from the NRC on the EE/CA prepared for this AOC. The NRC requested more detail on cleanup goals and methods. The ARS contractor is working to address the NRC=s concerns.

A new contract has been awarded through GSA to perform investigative environmental work. GSA Task Order 1 was awarded ($122,555) to conduct an RI/FS at a rubble landfill in order to address ground water contamination.

COSTS: The total amount spent on the efforts completed/contracted up through FY 1999 (PA/SI, Phase I and II ESA, remediation of a small site and the Biodegradable Site, RI/FS, installing/sampling wells at the radiation burial site, community relations, aerial photo analysis, field reconnaissance, desktop data evaluation, site screening, removals, and community relations) was $16.216 million. The total amount spent in FY 2000 is $1.527 million, for a total spent to date of $17.743 million. It is anticipated that over the next 5 years, an additional $3.900 million will be needed to complete the RI/FS at the remaining AOC=s. Another $17.250 million will be required to complete removals and implement selected remedial actions.

FACILITY: **U.S. National Arboretum**
Washington, D.C.

STATUS: Docket. Non-NPL. (Listed on the July 1992 docket.) ARS revised the SI report in response to EPA comments.

NARRATIVE: A contract for a PA of the entire location and optional SI was awarded in April 1990 to evaluate the possibility of releases of hazardous substances/ wastes at the site and in support of a major project to restore an historical site. In August 1990, a contract modification was issued to exercise the SI option.

An SI report, HRS PREscore of 8.47 to 8.77, and a ANo Further Remedial Action Planned under Superfund" (NFRAPS) recommendation for this facility were submitted to EPA and the District of Columbia (D.C.) in June 1991. EPA requested additional sampling of the Arboretum's

China Valley site and to submit the data as an addendum to the PA/SI. The sampling report was submitted to EPA in March 1995. In January 1997, EPA developed a PREscore for the site of 42.24 based on only the 1991 PA/SI.

In September 1998, EPA sent a letter to the location requesting further information related to the PA/SI.

In February 1999, ARS contracted for collection of additional samples and information to compute a revised HRS PREscore.

FY 2000 WORK: In FY 2000, ARS completed a work plan and SI fieldwork to collect the data requested by EPA. A draft revised SI report and HRS PREscore of 18.52 has been submitted to EPA for comments.

FACILITY: **Plant Germplasm Quarantine Facility**
Glenn Dale, Maryland

STATUS: Docket. Non-NPL. (Listed on the February 1993 docket.) ARS submitted a revised SI report in response to the EPA comments. It is expected that a NFRAPS designation will be forthcoming.

NARRATIVE: Chemical and pesticide waste contamination in small quantities was suspected, so a PA was performed. A PA report, HRS PREscore of 10.78, and a NFRAPS recommendation were submitted to EPA and the State of Maryland in August 1991. State review has not been completed. In April 1996, EPA shared their contractor=s PREscore sheets with ARS. The PREscore for the facility was determined to be 31.95, and was based on information from the PA and some very limited sampling conducted as a result of demolition work. The contractor recommended further sampling.

In 1997, ARS awarded a Task Order (13) for the characterization of the soils left following the demolition of buildings. In August 1997, EPA submitted a request that an SI be conducted at the location. In 1998, ARS awarded a Task Order (16) to conduct the SI.

ARS modified Task Order 13 to address EPA comments on the characterization and to conduct removal of the soils.

In 1999, ARS completed the fieldwork for soil characterization. The draft characterization report was submitted to EPA and to the State of Maryland. ARS modified the Task Order for the SI to include additional sampling needed to refine the HRS PREscore.

FY 2000 WORK: In December 1999, EPA provided comments on the draft characterization report. ARS has completed additional SI sampling and submitted the draft SI report in September 2000. Although the HRS PREscore was 30.13, a November 20, 2000, letter was received from EPA indicating that the high score was a result of the model and does not indicate a threat sufficient to propose the site for placement on the NPL.

A Task Order was awarded to perform removal of nonregulated debris and soils. This action is currently on hold pending a decision by the State on disposal options.

FACILITY: **Avian Disease and Oncology Laboratory**
East Lansing, Michigan

STATUS: Docket. Non-NPL. (Listed on the November 1988 docket.) A PA was completed. HRS PREscore of 50. Removal project completed with State oversight. ARS has submitted a report to the State requesting closure and a NFRAPS designation.

NARRATIVE: Miscellaneous laboratory wastes were discovered in a floorless concrete vault. In addition, laboratory wastes were discovered in a drywell. Work on a contract for PA/SI services awarded in 1989 was delayed by difficulties in negotiating a workplan with EPA and the State of Michigan until 1991.

High concentrations of mercury, up to 1500 parts per million, and other contaminants were found in a vault and underlying soils. Ground water did not appear to be affected. A PA report and HRS PREscore of 50 were submitted to EPA and the State in April 1992. Although no imminent hazard was present, the relatively high HRS score reflects the combined effects of elevated mercury levels in soil, shallow ground water, interconnectedness of the uppermost and drinking water aquifers, and the large population using ground water as a source of drinking water within four miles of the site.

To expedite site cleanup, a contract was awarded in September 1992 to remove the vault and associated contamination, to ensure ground water had not been impacted, and to study other potential contaminated sites. A remediation report was issued in January 1994.

In July 1994, ARS requested from EPA and the State a status of their review of the PA report. ARS has not received a determination to date.

Accurate location of the drywell was identified in September 1994. Samples of the drywell were collected in July 1995 using hazardous waste

cleanup (HWC) funds. Sample results indicate no contamination is present. The State has suggested they will propose a NFRAPS designation for the location. EPA has verbally advised ARS to work with the State due to other priorities. In September 1996, it was learned that the State has not completed their review due to higher priorities.

A report of sample results for the drywell investigation was submitted to the State and EPA in April 1996. Since data in the report is negative, ARS recommended a NFRAPS designation. EPA advises that we work with the State for resolution of the site.

ARS contacted the Michigan Department of Environmental Quality (MDEQ) periodically through FY-97 in order to encourage them to complete their reviews of the submitted reports and ARS= request for closure with a NFRAPS designation.

In July 1998, MDEQ advised ARS that MDEQ would require resubmittal of the data in a newly modified format before they would review the case for closure. ARS developed a proposal that would comply with the MDEQ revised reporting requirements and solicited a cost estimate to do this work.

HWC funding was obtained, and a contractor was obtained to compile the data previously submitted to MDEQ into a new format as required by MDEQ. This report was submitted to MDEQ in May 1999, and again, requested site closure.

FY 2000 WORK: ARS received a response from MDEQ in November 1999 requesting additional information before they could evaluate the closure request. In FY 2000, ARS held a meeting with MDEQ to clarify their questions about the latest submittal. Based on information from the meeting, ARS contracted for the additional information and resubmitted the report to MDEQ in December 2000, again requesting closure of the site and a NFRAPS designation from EPA and the State.

FACILITY: **National Animal Disease Center**
Ames, Iowa

STATUS: Docket. Non-NPL. (Listed on the November 1988 docket.) ARS is working with the Department of Agriculture=s Radiation Safety Staff to develop a removal action plan for a mixed low-level radioactive/hazardous waste burial site.

NARRATIVE: Miscellaneous low-level radioactive/hazardous mixed wastes were buried at a site on this location. A contract for a PA of the entire location and optional SI services was awarded in May 1990. A contract modification for environmental sampling of one pesticide disposal site at the location was issued in September 1990.

A PA report, HRS PREscore of 10.34, and a NFRAPS recommendation were submitted to EPA and the State of Iowa in April 1991. In January 1993 and February 1994, additional information was provided in response to EPA comments received in late 1991.

EPA outlined deficiencies in the PA report in March 1995. They provided a recommendation for permanent ground water monitoring of the radioactive/hazardous mixed-waste burial site. In response to EPA's deficiency list, HWC funds were obligated in FY-95 for soil and ground water sampling adjacent to the sheep dip site and the radioactive/ hazardous mixed-waste burial site.

Additional soil borings/monitoring well installation in the northwest portion of the property was completed at the request of EPA. Data obtained was combined with data from the FY-95 effort and submitted to the State and EPA in March 1996.

In 1997, results of annual sampling of the monitoring wells around the burial site continued to show that no contamination has leached from the site. This data was submitted to EPA and the Iowa Department of Natural Resources. Even though the data shows no leaching from the site, EPA would like to see this mixed waste removed. In 1999, the facility concurred with the concept of removing the waste, and is working with the USDA Radiation Safety Staff, through their interagency agreement with the Department of Defense, in order to develop a removal action proposal and cost estimate. In FY 2000, a contract was awarded for the work. It is estimated that the plan will be submitted to the EPA in May 2001 for approval.

FACILITY: **Meat Animal Research Center**
Clay Center, Nebraska

STATUS: Docket. Non-NPL. (Listed on the February and November 1988 dockets.) SI submitted for review by EPA and the State on November 30, 1994. The HRS PREscore is 3.73.

NARRATIVE: This location is a formerly used Defense site, previously a Navy facility, and is currently a generator of hazardous waste. In addition, the location has an incinerator, lagoon, and a land disposal site previously used for

burial of low-level radioactive wastes. The Navy is in the process of remediating several of its inactive sites. A contract for a PA, covering the entire facility and optional SI, was awarded by ARS in May 1990. A contract modification was issued in October 1990 for HRS scoring of the location using the new HRS.

A PA report, HRS PREscore of 6.0, and a NFRAPS recommendation were submitted to EPA and the State of Nebraska in February 1991.

In June 1992, the EPA disagreed with the HRS PREscore of 6.0 and said it expected the HRS score to exceed 28.5. EPA requested an SI of the low-level radioactive waste, wastewater, landfill, and pesticide washdown areas. On November 30, 1994, the SI report was submitted to EPA and the State. The revised HRS score is 3.73.

The Resource Conservation and Recovery Act closure of a waste oil tank and cleanup of associated soil contamination were completed, and a closure report was submitted to EPA in November 1994. The State approved the closure on March 16, 1995. EPA has deferred to the State. No further action is anticipated. In December 1999, the Nuclear Regulatory Commission delisted the animal waste burial site from their list of potential low-level radioactive waste disposal sites.

FY 2000 WORK: No actions were taken during this fiscal year. ARS is still waiting for the EPA's and the State's response.

FACILITY: **Aquatic Weed Research Facility**
Davis, California

STATUS: Docket. Non-NPL. (Listed on the November 1988 docket.) ARS received notification from EPA that no further action is required in 1994. The location was listed as a NFRAPS facility on the Docket update published in the Federal Register on December 29, 2000.

NARRATIVE: Small quantities of miscellaneous chemical and pesticide wastes were disposed in two holding ponds (surface impoundments) at this location. A contract for a hydrogeological investigation under State of California requirements and a PA covering the entire location was awarded in June 1990. A PA report, HRS PREscore of 9.17, and a NFRAPS recommendation were submitted to EPA and the State in May 1991. The State concurred with the NFRAPS recommendation in July 1991. EPA concurred with the NFRAPS recommendation by letter on May 20, 1994. No further action is required.

FACILITY: **U.S. Cotton Research Station**
Shafter, California

STATUS: Docket. Non-NPL. (Listed on the February 1988 docket.) On May 23, 1994, EPA notified ARS that this facility would be placed in ASite Evaluation Accomplished@ status. The location was listed as a NFRAPS facility on the docket update published in the Federal Register on December 29, 2000.

NARRATIVE: Location pesticide wastes were disposed in a drywell. A contract was awarded to complete a two-phase geotechnical investigation under State of California requirements and an SI in March 1990. A contract modification was issued to cover an increased Phase II scope due to an unexpected distribution of contaminants.

In 1991, the second phase of work was undertaken to expand knowledge of the vertical and horizontal extent of contamination, including construction of a monitoring well. Site sampling has confirmed the existence of pesticide contamination of soil up to 80 feet below ground surface. Contaminants in ground water are not due to operations at this location.

On May 13, 1992, the PA/SI reports were submitted to EPA and the State for review.

In June 1992, the State notified the Agency that formal closure of drywell 1 would be required. The State also requested further investigation of drywells 2 and 5, a leachfield, and a percolation pond. This work was completed in November 1992. Initial results indicated only the percolation pond to be of concern. Further sampling of the percolation pond demonstrated that no remedial activity is required.

ARS met with Kern County, the actual property owner, and the State to discuss options for closure of drywell 1 under State authority. Capping the drywell was presented as the most cost-effective method of closure. On April 15, 1994, Kern County filed a tort claim against ARS for contamination of the drywell. ARS met again with Kern County and the State to discuss closure of the drywell. It was decided that further characterization of the site is required to determine if dioxins are present in association with the Silvex indicated from prior sampling; the result to be used to determine the risk posed by the site. Sampling was completed in April 1995. Results indicated that there are no dioxins present. The State Regional Water Quality Control Board has determined that, since there are no dioxins present and ground water is hundreds of feet deep, the site does not pose any threat to ground water.

Test results, along with additional sampling results from the top 3 inches of soil, were submitted to the ATSDR for completion of a health risk assessment. The surface samples showed low levels of some pesticides. On September 27, 1995, the ATSDR notified ARS that their assessment has been completed, and the site does not pose a threat to public health.

In June 1996, the California Regional Water Quality Control Board reviewed the report for the April 1995 sampling for dioxins/silvex and concluded that the site does not pose a threat to ground water. A closure plan, which calls for capping the drywell, has been submitted to and approved by EPA, Region 9.

The closure plan was presented to Kern County, and they concurred with the plan under the condition they would not be held liable as a Potential Responsible Party under CERCLA. In return for this release of liability, the county would drop the tort claim.

FY 2000 WORK: A settlement agreement was drafted by the OGC and negotiated with the county. Justice Department approval was obtained in September 2000, because of the release of liability, and the response costs to date had exceeded $500,000. Both parties signed the agreement.

Work for the drywell closure will be completed in FY 2001, pending a notice of the settlement agreement in the Federal Register and the required 30-day public comment period.

FACILITY: **Horticultural Research Laboratory**
Fresno, California

STATUS: Docket. Non-NPL. (Listed on the November 1988 docket.) The State has accepted the NFRAPS recommendation from ARS. On November 2, 1998, ARS received notification from EPA that no further action is required. However, the most recent publication of the Superfund Amendments and Reauthorization Act (SARA) docket update did not list the location as a NFRAPS facility.

NARRATIVE: Laboratory wastes were discovered in septic systems and drywells at the location. The California Regional Water Quality Control Board required a hydrogeological survey. A two-phase contract to perform the hydrogeological survey and prepare a PA covering the entire location was awarded in March 1990. The hydrogeological survey found contamination in only one drywell, and that was below regulatory concern. Ground water was not impacted by site operations. A PA report, HRS PREscore of 6.5, and a NFRAPS recommendation were submitted to EPA

and the State of California in January 1992. On August 12, 1992, the State concurred with the NFRAPS recommendation. On November 2, 1998, ARS received notification from the EPA that no further action is required.

FY 2000 WORK: No actions were taken during this fiscal year. Awaiting EPA publication of the NFRAPS.

FACILITY: **Plum Island Animal Disease Center**
Greenport, New York

STATUS: Docket. Non-NPL. (Listed on the February 1988 docket.) The facility status should be PA/SI, not NFRAPS as currently identified in the docket. An HRS package has been submitted to EPA for scoring. The HRS PREscore is 10.13 or 13.22, depending on the surface water pathway of interest. SI work is ongoing.

NARRATIVE: ARS performed a PA in 1988 and made a NFRAPS recommendation. In 1990, EPA and the State concurred with the NFRAPS recommendation. However, recognizing deficiencies in the original PA, ARS contracted for a new one. The PA was completed and sent to the EPA and State for review on September 28, 1994. The HRS PREscore was 54.

A contract to perform an SI was awarded in September 1994. The SI was completed in June 1996. The final HRS was 50.23 based on a score of 100 for air, 9.6 for ground water, and 0 for surface water and soil pathways. The SI was submitted to EPA for comment in July 1996.

In 1998, both the EPA and State provided comments on the SI. The EPA requested that the facility conduct additional sampling and resubmit the package for HRS scoring. The State requested that the facility conduct site screening of selected waste management units and perform various investigative actions. Based on the comments, ARS awarded a contract to perform a more comprehensive SI in December 1998.

An Historical Aerial Photography Analysis, a Quality Assurance Project Plan, a former Army Building Study, and the Health and Safety Plan were issued in August 1999.

FY 2000 WORK: The HRS package was submitted to the EPA in August 2000. An HRS PREscore of 10.13 or 13.22 was calculated, depending on the surface water pathway of interest, the south-side wetlands or Long Island Sound, respectively. Other SI work is ongoing.

FACILITY: **Eastern Regional Research Center**
Wyndmoor, Pennsylvania

STATUS: Docket. Non-NPL. (Listed on the February 1988 docket.)

NARRATIVE: The location is a generator of hazardous waste. A PA and NFRAPS recommendation were submitted to EPA and the State in 1988. In 1989, a shed used to store paints and solvents was demolished. Very low levels of solvents were detected in the soil. The EPA requested additional information in 1989. The concrete slab and underlying contaminated soil were removed, and additional information on the cleanup was submitted to EPA both in 1990 and in 1991.

EPA and the State of Pennsylvania are reviewing the PA. On August 9, 1994, EPA sent a letter to ARS stating they are in the process of reviewing the PA, but did not provide a date when they expected their evaluation to be completed. EPA was contacted several times over the past few years to determine the status. ARS was told that the PA is still under review. EPA could not provide an anticipated completion date.

FY 2000 WORK: None. The PA has been awaiting EPA review since 1994.

FACILITY: **USDA Appalachian Soil and Water Research Lab**
Beaver, West Virginia

STATUS: Docket. Non-NPL. (Listed on the September 1991 docket.) On August 9, 1994, ARS received a letter from EPA, Region 3, stating that this location was removed from the docket. This location was listed as a NFRAPS facility in the SARA docket update published in the Federal Register on December 29, 2000.

NARRATIVE: Pesticides were released into the environment from a storage trailer. The storage trailer and surrounding soils and debris were removed in August 1991, and a cleanup report was submitted to EPA. Regional EPA is using the cleanup report submitted in 1991 and determined that a PA or HRS scoring package for this site is not required.

On August 9, 1994, ARS received a letter from the EPA stating that the storage trailer has been given a NFRAPS status. This status was included in the December 29, 2000, docket update. No further action is expected at this site.

FY 2000 WORK: None.

FACILITY: **Russell Research Center**
Athens, Georgia

STATUS: Docket. Non-NPL. (Listed on the April 1995 docket.)

NARRATIVE: Miscellaneous acids, chemicals, and solvents were identified in contaminated soils. In FY 1993 a corrective action plan was completed, and contaminated soils were removed.

ARS submitted a final report to the State of Georgia recommending that no further action is required to be taken at the site. On May 2, 1994, the State concurred with the findings.

This facility was included in the April 11, 1995, Federal Register notice as a proposed addition to the docket. However, a PA should not be required since the cleanup has already been completed, and the State has concurred that no further action is required. ARS has contacted EPA to recommend a NFRAPS designation. At this time, a determination has not been made by EPA.

FY 2000 WORK: None.

FACILITY: **Coastal Plains Experiment Station**
Tifton, Georgia

STATUS: Docket. Non-NPL. (Listed on the April 1995 docket.)

NARRATIVE: Miscellaneous chemicals were discovered in soils. In 1991, ARS consulted with the regional EPA Region IV and the State of Georgia and, with EPA assistance, collected soil and ground water samples for analysis from the suspect area. Additional sampling was conducted in FY-93 and submitted to the State with a recommendation that no further action be taken. On June 28, 1993, the State concurred with the findings.

This facility was included in the April 11, 1995, Federal Register notice as a proposed addition to the docket. However, a PA report should not be required since the cleanup has already been completed, and the State has concurred that a NFRAPS designation is appropriate. ARS contacted EPA in 1993 requesting a NFRAPS designation. At this time, a determination has not been made by EPA.

FY 2000 WORK: None

COMMODITY CREDIT CORPORATION (CCC)

The CCC's hazardous materials sites consist of former grain storage facilities and private properties operated by the corporation. Therefore, these sites are not considered Federal facilities under CERCLA. They are included under this report since they are being investigated and cleaned up using the USDA Hazardous Materials Management Account funds in compliance with CERCLA.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Adams, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: The town has an ample, clean drinking water supply from two public wells. Carbon tetrachloride was detected in a third well and it was removed from service in 1991. CCC conducted a data evaluation and site visit with town officials in FY 1995. EPA conducted a PA and Site Screening Inspection in FY 1997. EPA conducted an Expanded Site Investigation (SI) in FY 1999. The contaminant source has not been identified. Excessive nitrates led the town to install a reverse osmosis treatment system on its public water supply in 1991. CCC initiated site characterization activities in late FY 1999.

FY 2000 WORK: CCC conducted field characterization activities in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Agenda, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: Both of Agenda's public water supply wells were found to be contaminated with carbon tetrachloride. The first indication of contamination was in 1987. An air stripper treatment system was installed in 1994 by the Kansas Department of Health and Environment (KDHE). The system effectively removed carbon tetrachloride from the community's distribution system. The town connected to the Republic County Rural Water District (RWD) #2 in 1996 and discontinued use of the two wells. KDHE then disconnected the air stripper system. CCC conducted site characterization activities in FY 1996. CCC conducted extended water level monitoring and annual groundwater sampling at the site in FY 1997 and FY 1998. In FY 1999, CCC issued a report on the extended monitoring program for the site that concluded that the groundwater contaminated with carbon tetrachloride has become almost

stagnant since pumping of the village=s former public wells was discontinued in 1996. Based on the findings contained in the report, continued annual monitoring and the investigation of potential aquifer restoration scenarios for the site were determined to be technically unwarranted. However, one additional round of groundwater samples were collected. The results of this follow-up sampling indicated that contaminant levels were below the MCL and that there are no private wells downgradient of the town that could be impacted by the contamination. The results of the FY 1999 follow-up sampling confirmed the findings of the extended monitoring program and no further monitoring or remedial investigations are planned for the site.

FY 2000 WORK: CCC work at the site was reviewed by KDHE as part of an intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000. KDHE concurred that no further action is required at this site. CCC also entered into a reimbursable agreement with KDHE, providing reimbursement for the air stripper system during the time it was in use at the site.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Agra, Kansas

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Two of Agra's public water supply wells have been found to be contaminated with carbon tetrachloride. The first indication of contamination was in 1985. Both wells have been removed from service as drinking water sources. CCC evaluated the town's drinking water supply in FY 1995 and concluded that Agra received an adequate supply of safe potable water from its three remaining public supply wells. In FY 1995, CCC initiated site characterization activities. These activities were completed in FY 1996 and a feasibility study (FS) was completed in FY 1997. The FS recommended no further action because risks posed were within EPA-established limits and no potential negative environmental impacts would be expected.

FY 2000 WORK: CCC work at the site is currently under review by KDHE as part of an intergovernmental agreement that was entered into by CCC and KDHE in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Aurora, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: The town has an ample, clean drinking water supply from three public wells. A fourth well had excessive levels of carbon tetrachloride detected in 1982. The Nebraska Department of Environmental Quality (NDEQ) and EPA conducted SIs at the site. CCC conducted a data evaluation of the previous investigations and made a site visit with town officials in FY 1994. The evaluation determined that contamination levels in the affected well decreased steadily during the 1980's and also found that since 1990, the well has been tested over a dozen times with only one sampling event resulting in any contaminant detection. The contamination source has not been identified. The town also has experienced other volatile organic compound problems with its water supply.

FY 2000 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Bendena, Kansas

STATUS: Non-Docket. Non-NPL

NARRATIVE: The unincorporated town=s lone public water supply well has a long history of nitrate and carbon tetrachloride contamination. The well was constructed in the early 1900's. As early as the mid 1970s, high concentrations of nitrate were detected in the well. Carbon tetrachloride was detected in 1985. As a result, KDHE initiated a monitoring program of the well. The town connected to the Doniphan County Rural Water District (RWD) #5 in 1988. Shortly thereafter, KDHE connected an air stripper treatment system to the town's well. The modified system operated by removing carbon tetrachloride from the town=s well, then blending the nitrate-bearing well water with nitrate-free water from RWD #5 to bring the nitrate concentrations below the MCL. Through the early 1990s, the nitrate concentrations continued to rise in the town=s well. Because of these increasing concentrations, the percentage of water pumped from the town=s well and blended with RWD #5 was continuously decreased. By the mid 1990's, the community decided to shut down its well because nitrate levels had made blending economically impractical. Since that time, the town has purchased 100% of its drinking water from RWD #5. The air stripper has been disconnected from the town=s well. KDHE conducted a PA in 1987 and a Site Inspection in 1988. KDHE conducted a comprehensive investigation in FY 1998. CCC conducted a data analysis and site visit with town officials in preparation for site characterization work in FY 1998 and a work plan was developed. However, at the request of KDHE, CCC has discontinued site characterization work at the site. The carbon tetrachloride contaminant

source has not been identified. KDHE initiated a nitrate pilot project in FY 1998, in efforts to effectively reduce nitrate concentrations in the public well to within acceptable levels. The town currently continues to receive all of its drinking water from RWD #5.

FY 2000 WORK: None. Additional work may be needed.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Blair, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in a private drinking water well in FY 1995 near the former CCC site, which was located about two miles south of town. CCC is providing the affected residences with alternate water.

FY 2000 WORK: Alternate water supplies are being provided to affected residents.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Bruno, Nebraska

STATUS: Non-Docket. NPL (Non-Federal) Site. (Listed on NPL in July 1996)

NARRATIVE: Bruno's water supply was found to be contaminated with carbon tetrachloride in 1984. EPA identified CCC and several other entities as PRPs. The contaminated public wells were replaced in 1990 with new wells that supply the town with a sufficient, potable drinking water supply. These wells were primarily funded by a Community Development Block Grant. The village secured a loan for the remainder of the costs of the new wells. CCC initiated a settlement agreement with the village, in which CCC provided funding to the village to pay off the entire loan amount in FY 1991. EPA conducted a PA in 1987, a PRP Search in 1988, and an SI in 1989. EPA proposed the site for NPL listing in 1992. In FY 1994, CCC initiated site characterization activities. These activities were completed in FY 1995. A draft interim feasibility study was developed in FY 1996 and, after review and comment by EPA, was finalized. An interim FS was developed due to the unique characteristics of the groundwater in the Bruno area. The site has multiple competing processes affecting the groundwater and, ultimately, the contaminant plume migration. Therefore, CCC undertook a long-term monitoring program at the site to track seasonal variations in groundwater movement and gather additional data required to quantify the effects of the various processes on plume migration. After completion of the monitoring program, a final FS was developed by CCC in FY 1998. Subsequently, as lead agency for the

site, EPA used the data from the CCC studies in developing its own FS for the site, which was issued later in FY 1998. Also in FY 1998, EPA published a Proposed Plan, held a public meeting regarding the plan with the village, and issued a ROD that called for installation of a pump-and-treat remediation system. In the ROD, EPA stated that its selected remedy would restore the aquifer to levels below the MCL in approximately 18 years. The ROD also stated that CCC's site characterization activities met the NCP requirements for an RI. The CCC had conducted all required community involvement activities during the RI phase of work. As lead agency, EPA assumed all community involvement responsibilities after completion of the RI. In FY 2000, CCC continued to work with EPA regarding implementation of its selected remedy.

FY 2000 WORK: CCC conducted additional soil and water sampling in FY 2000, which was provided to EPA, as well as additional data analysis in order to identify additional PRPs.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Canada, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: KDHE identified carbon tetrachloride contamination in two private drinking water wells in 1997. CCC then provided an alternate water supply to one of the affected residences. The other residence declined CCC's offer of providing alternate water. KDHE conducted a pre-CERCLIS Site Reconnaissance and Evaluation (SRE) in FY 1998, identifying CCC as a PRP. KDHE conducted a PA/Site Screening Investigation (SSI) in FY 1999. CCC initiated a site characterization data evaluation. After reviewing the KDHE investigations, CCC concluded that site characterization was not warranted due to the fact that the SSI misidentified the location of the former CCC facility. The contaminant source identified in the SSI is not a former CCC facility but, rather, a privately-owned grain facility. CCC provided this information to KDHE.

FY 2000 WORK: The site is under review by KDHE as part of an intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Centralia, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: KDHE identified carbon tetrachloride contamination in two private drinking water wells in FY 1998. CCC provided residents with alternative water. KDHE initiated a Site Screening Assessment in FY 1999.

FY 2000 WORK: The affected residents were hooked up to the rural water district supply line.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Ceresco, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: The town has an ample, clean water supply from two new public wells located about two miles north of town. Carbon tetrachloride was first detected in 1983, in a sample collected from the municipal distribution system. The concentration level was less than the MCL. The older public wells that were serving the community at that time had a long history of excessive nitrate levels. Due to the nitrate problems, the village connected the two new wells to the distribution system in 1989. Since that time, these newer wells have provided the majority of the community=s drinking water. The older wells were occasionally used to supplement the village=s water supply, when demand was highest. The older wells were sampled in 1990, revealing the presence of carbon tetrachloride. NDEQ began regular monitoring of the wells. EPA conducted a PA in 1991 and an SI in 1993. During these investigations and in subsequent well testing conducted in 1993, the older wells continually tested below the MCL for carbon tetrachloride. NDEQ issued the village a high-nitrate notice in 1993, due to the excessive nitrate levels in these older wells. The village then removed the wells from active status and had them re-designated as emergency use only. The CCC conducted a data evaluation of these previous investigations and also conducted a site visit in FY 1997 in the initiation of site characterization activities. Site characterization field activities were conducted in FY 1998. In FY 1999, site characterization work was completed and an FS was also conducted. The FS recommended no further action. Simulations of contaminant migration did not support the need for groundwater remediation. The only wells potentially affected by the contaminant plume are the two older public wells that were shut down because of excessive nitrate contamination. Due to the nitrate contamination, the village has no plans to reactivate these wells at this time. The FS concluded that if at some point in the future the village decided to reactivate these wells, contaminant concentrations would be expected to be below the MCL. The two older wells are screened in the upper and lower aquifers. Modeling indicated that any water that would be drawn from the low contaminant levels in the

upper aquifer would be mixed with and diluted by the quantities produced from the lower aquifer. No further action is recommended beyond monitoring of the older public wells, should they be reactivated in the future. These findings were presented to the village board, which concurred with the no further action recommendation.

FY 2000 WORK: CCC conducted monitoring activities including the older municipal wells.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Clay Center, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: One of Clay Center's public water supply wells was found to be contaminated with carbon tetrachloride in 1988. The well, which also had a history of high nitrate concentrations, has been removed from service. The community currently receives ample, clean drinking water from two other public wells and an older well that serves as a backup. EPA conducted a PA in 1989 and an SI in 1990. In FY 1995, EPA completed a Site Assessment Prioritization Report for the site. CCC assumed responsibility for further investigations at the site and conducted a data evaluation in FY 1996 that consisted of a review of the previous investigations and other data, and a site visit with village officials. CCC then initiated site characterization activities in FY 1996. These activities were completed in FY 1997 and an FS was completed in FY 1998, which recommended natural attenuation with monitoring. The FS included conceptual and numerical modeling of groundwater flow and contaminant transport and a risk assessment. It was concluded that there was no risk to residents of the community because they are all connected to the public water supply. Results also showed that there were no unacceptable risk levels to any current residences located outside of town nor to hypothetical future residents outside of town boundaries who may opt to drill a private well down gradient from the plume. A monitoring program was initiated in FY 1998, with the objective of monitoring the plume=s position to confirm its predicted behavior. The FS stated that if changes in the plume configuration, migration pattern, or population occur, the natural attenuation alternative would be reevaluated. Excessive nitrate levels have also been detected in the area outside of town down gradient from the plume. Under these conditions, the groundwater in this area is unlikely to ever be usable as a future source of drinking water. Monitoring continued in FY 1999.

FY 2000 WORK: Monitoring activities were completed in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Cortland, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was initially detected in two of the town's three public water supply wells in 1983. EPA conducted a PA at the site in 1987 and a limited SI, also in 1987. CCC conducted a data evaluation and site visit with village officials in FY 1996. The evaluation found that the previous investigations did not identify a contaminant source area and that the contaminated wells have tested below the MCL since the late 1980's. The wells have continued to be sampled by the State on an annual basis.

FY 2000 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Craig, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: During a Site Screening Assessment conducted in FY 1997, EPA identified carbon tetrachloride contamination in a private drinking water well located about one half mile from the town. The CCC is providing the well owners with alternate water.

FY 2000 WORK: Alternate water supply provided to affected residents.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Everest, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: KDHE identified carbon tetrachloride contamination in a private drinking water well in FY 1997. CCC is provided the residence with alternative water. KDHE conducted a Site Screening Assessment in FY 1999.

FY 2000 WORK: The CCC completed Phase I site characterization activities at the site in FY 2000. This report is currently under review by KDHE. The affected resident was hooked up to the rural water district line.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Frankfort, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: The city has ample, clean drinking water supplied by three public wells. The well contaminated with carbon tetrachloride has been removed from service. KDHE completed an Extended Site Inspection in FY 1998. CCC conducted site characterization activities in FY 1998 and initiated an FS. In FY 1999 a draft FS was completed by CCC and provided to KDHE and EPA.

FY 2000 WORK: The draft FS was reviewed by KDHE as part of an interagency agreement that was entered into by CCC and KDHE in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Funk, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: The village has ample, clean drinking water supplied by one public well. Data provided to CCC by EPA in 1993 indicated that the town originally had another public well in which carbon tetrachloride had been detected. EPA has conducted a PA/SI at the site. In FY 1998, CCC conducted a data evaluation at the site in preparation for conducting site characterization activities. Based on the results of the data evaluation, CCC determined in FY 1999 that no further action was required by CCC at the site. A critical review of the existing data for the site found that the well in question had tested positive for carbon tetrachloride contamination on a single occasion and that follow up sampling indicated no detection. The village abandoned the well in the early 1990's for reasons unrelated to the one-time detection of carbon tetrachloride. In addition, all sampling of private wells in the area resulted in no detection of carbon tetrachloride.

FY 2000 WORK: No further action planned.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Gladstone, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Several private wells were found to be contaminated with carbon tetrachloride in this small community by EPA in the early 1990's. The town is unincorporated and has no public water system. CCC conducted a data evaluation and site visit in FY 1994. The results of the evaluation determined that, in the early 1980's, most residents connected to the Little Blue Natural Resources District (NRD) water system. However, three

residences opted not to connect to the NRD. In FY 1992, EPA conducted a removal action and connected these three residences to the NRD. EPA conducted a PA and SI in FY 1992. CCC conducted additional data evaluation activities in FY 1998, which found that all contaminated private wells were no longer used for drinking and that all community residents now obtain their drinking water from the NRD. Also in FY 1998, CCC conducted sampling of private drinking water wells in the area near the town that were not connected to the NRD, with results indicating no detection of carbon tetrachloride.

FY 2000 WORK: No further action planned.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Hackney, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: The unincorporated town of about 15 residences currently has an ample, clean water supply from private drinking water wells. CCC conducted an alternative water supply study in FY 1993 that determined that two private wells contaminated with carbon tetrachloride were no longer in service and a third well no longer tested positive for contamination in subsequent sampling. KDHE has conducted a PA/SI and is studying connecting residents to either a nearby RWD or one of two city systems in the area. The contaminant source has not been identified. Very high levels of nitrates have also been detected in many of these private wells.

FY 2000 WORK: No further action planned, awaiting State determination of no further action.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Hilton, Kansas

STATUS: Non-Docket. Non-NPL

NARRATIVE: The Hilton site is not a community but a crossroads located about four miles north of McPherson. The site currently consists of an agricultural cooperative. A domestic well at this property was found to be contaminated with carbon tetrachloride in FY 1992. The well is no longer used for drinking by the cooperative employees. KDHE conducted a PA in FY 1993 and a screening site inspection in FY 1994. CCC initiated site characterization activities in FY 1996 and completed these activities in FY 1997. However, the study was hindered by the denial of access to private and railroad property throughout the investigation. In particular, the lack

of access to railroad property that constitutes more than 90% of the land originally occupied by the former CCC grain storage facility has prevented detailed study of the surface and vadose zone soils at the site. A FS could not be conducted without additional data that could be obtained only with access to railroad property. Furthermore, site characterization work determined that the main aquifer is essentially stagnant at the site and the plume is held within the area of influence of the contaminated private well by the continued use of the well for sanitary purposes. No contamination was found in any private or temporary wells in the area during the characterization work. In addition, no private or irrigation wells are located in the likely path of potential future migration of the contaminant plume, and there is no immediate potential for exposure to carbon tetrachloride in the groundwater. Due to the denial of access, the source and pathway of the contamination in the affected private well are unknown. CCC negotiations with the railroad over access proved unsuccessful. CCC requested the assistance of EPA Region VII in gaining access to the property in FY 1998. EPA responded in FY 1999 how it had assigned the site the status of ANFRAP@- no further remedial action planned- under its CERCLIS tracking system. Since the Superfund program does not currently plan any response action at the site, EPA stated that it does not anticipate utilizing CERCLA authority to obtain access for any party conducting investigations at the site. EPA has allowed KDHE to assume lead agency status at the site. Under the terms of the intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000, the CCC site characterization work is slated for review by KDHE at a time to be determined.

FY 2000 WORK: No actions were taken during this fiscal year. Further work at the site has been discontinued until access issues are resolved.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Hordville, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: In 1986, the town's two public water supply wells were found to be contaminated with carbon tetrachloride. The wells also had a history of excessive nitrate concentrations. CCC initiated an alternate water supply study in FY 1993 to determine alternate drinking water options for the village. Efforts to design and construct an air stripper system for the village=s public water supply proved unsuccessful. The Nebraska State Department of Health (NDOH) would not approve modifying the village=s system with an air stripper due to the age and condition of the wells and because of the nitrate levels identified in the water system. CCC

initiated site characterization activities in FY 1994 and completed these activities in FY 1995. CCC then initiated an FS in FY 1995, which was issued in FY 1996. The FS, which provided options for remedial action and an alternate water supply, was provided to EPA, NDEQ, Nebraska Health and Human Services (formerly NDOH), and to the community for comment. Natural attenuation was the selected alternative, coupled with a monitoring program to confirm the risk assessment=s findings that no current or potential future residences outside of town and down gradient from the contaminant plume will be affected in the future. The FS also recommended the drilling of two new public water supply wells to replace the two contaminated wells. On behalf of CCC, the Army Corps of Engineers (ACE) completed pre-design activities for the two new wells in FY 1997. In FY 1998, design was finalized and the two new wells were constructed and connected to the community=s distribution system. The contaminated wells are no longer in service. CCC initiated a monitoring program in FY 1996. Continued monitoring was conducted in FY 1997 FY 1998, and FY 1999.

FY 2000 WORK: A review and summary of all of the monitoring program data was conducted in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Hubbard, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected above the MCL in the village's main water supply well in the early 1980's. The town also has a standby well that has never tested positive for carbon tetrachloride. EPA conducted a PA in 1986 and an SI in 1987. The contaminant source was not identified. CCC conducted a data evaluation in FY 1998, with results indicating that the contaminated public well was tested quarterly for several years during the 1990's with contamination detections consistently occurring, though all detections have registered below the MCL. The CCC initiated site characterization activities at the site in FY 1999.

FY 2000 WORK: CCC completed site characterization activities. The results of this characterization indicated that no current or potential future human health or environmental risks are expected from exposure to carbon tetrachloride in the groundwater or soils at Hubbard, and no further actions by CCC at this site are recommended at this time.

FACILITY: **CCC Formerly Operated Grain Storage Facility**

Humphrey, Nebraska

STATUS: Non-docket. Non-NPL

NARRATIVE: Two of the town's three public water supply wells were found to be contaminated with carbon tetrachloride. The first indication of contamination was in 1983. The CCC completed an evaluation of the town's drinking water supply in FY 1995, with results indicating that the town obtains sufficient safe, potable water from its main producing public supply well. This is the town=s newest well and has not been affected by the contamination. CCC initiated site characterization activities at the site in FY 1995 and completed these activities in FY 1996. CCC initiated an FS in FY 1996 and completed this study in FY 1997. The FS recommended the no-action alternative under CERCLA be accepted for the town=s principle aquifer because simulated contaminant migration scenarios and risk assessment calculations presented in the FS demonstrated that there are no unacceptable health risks to the town=s residents or to residents outside of town limits. The FS also determined that no potential negative environmental impacts are expected with this scenario. CCC also conducted an evaluation of alternative water supply options for the town in FY 1996. The purpose of this study was to provide the community with technical information regarding several viable options for supplementing the supply of groundwater that was being delivered to the city=s municipal water supply system at that time. CCC provided the study to the community and held follow up meetings with the city council. The council expressed interest in the option in which a new public well could be drilled outside of town limits, in areas where it was determined that a new public well could obtain an ample, clean water supply. In FY 1998, CCC successfully completed negotiations with the community in reaching a settlement whereby the town received CCC funding to construct and connect a new public well.

FY 2000 WORK: No further action planned at this time.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Kenesaw, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected at levels above the MCL in one of the village=s public water supply wells in 1990 by NDOH. EPA conducted a PA in FY 1992 and an SI in FY 1994. CCC conducted a data evaluation in FY 1998, in preparation for conducting site characterization activities.

Based on the results of the data evaluation, CCC determined in FY 1999 that no further action was required at the site by CCC. A critical review of the existing data for the site found that the town currently receives ample, clean water from two additional public wells and that the contaminated public well has been removed from service. The evaluation also determined that, based on SI soil gas results, two contaminant source areas were identified. CCC did not operate grain storage facilities at either of these locations. These source areas were determined to be properties where private parties have historically conducted grain storage operations.

FY 2000 WORK: No further action planned at this time.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Leoti, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: One of the city's seven public water supply wells is contaminated with carbon tetrachloride. The first indication of contamination was in a sample collected from the well in 1986. KDHE conducted a PA in 1991 and an SI in 1993. The agency subsequently notified CCC and two private grain storage facilities that they were considered potentially responsible for the contamination. In FY 1995, CCC conducted a data evaluation in preparation for conducting site characterization activities. However, based on the results of the data evaluation, CCC determined in FY 1995 that no further action was required at the site by CCC. The evaluation found that the city connected an air stripper treatment system to the contaminated well in FY 1994, which has effectively removed the contamination. The city has since constructed additional public wells to its distribution system due to ongoing nitrate problems. After reviewing the data contained in the PA/SI and other well testing data obtained, CCC concluded that the data indicated that CCC was not responsible for the contamination.

FY 2000 WORK: The status of the site was reviewed by KDHE as part of an interagency agreement entered by CCC and KDHE in FY 2000. KDHE concluded that no further action was required by CCC.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Milford, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in FY 1995 in a domestic drinking water well located near a former CCC grain storage facility. The facility

was located approximately 1.25 miles south of Milford. CCC provided the affected residents with an alternate water supply. EPA conducted a PA in FY 1996. An SI was initiated in FY 1998 and completed in FY 1999. The SI determined that contamination extends 2,700 feet to the east from the former CCC facility. CCC initiated site characterization activities in FY 1999.

FY 2000 WORK: CCC completed Phase I and Phase II site characterization activities.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Morrill, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in the town's drinking water supply in the late 1980's. KDHE conducted a PA in FY 1989 and informed EPA that the town also had chronic inorganic problems with its old wells. CCC conducted an alternative water supply study in FY 1993 and determined that the town had an ample supply of clean drinking water. CCC learned that the town had connected to the city of Sabetha public water supply and also used water from the Brown County RWD #1 as a backup source. KDHE has conducted monitoring activities at the site. The carbon tetrachloride contaminant source has not been identified.

FY 2000 WORK: PRP work is ongoing to determine potential sources of contamination.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Murdock, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in Murdock=s public water supply in 1985 by NDOH. EPA conducted a removal action in 1986-87 to link the Murdock distribution system with a source of water unaffected by the contamination- the Cass County Rural Water District #2 (RWD) system. EPA conducted a PA in 1986, and SIs in 1986 and 1988, and also prepared an Engineering Evaluation and Cost Analysis. EPA identified the former CCC facility as the source of the contamination. The CCC and EPA entered into an Administrative Order on Consent in FY 1992. The CCC agreed to carry out the work called for in the Order. The Order also called for CCC to reimburse EPA for costs it had incurred at the site, including the RWD connection. During FY 1992, CCC reimbursed EPA for its past costs and initiated site characterization activities at Murdock. These activities were completed in FY 1993, concluding that the contaminant

plume migration would result in discharge to a small, intermittent stream north of the village. EPA conducted a risk assessment in FY 1994, which confirmed that current residents were not at risk from exposure to contaminated groundwater since alternate water had been provided to the town. However, the assessment calculated that risk levels associated with groundwater exposure for a hypothetical future resident choosing to locate a private drinking water well down gradient from the plume would be in excess of risk levels set by EPA. EPA prepared a draft Removal Action Document in FY 1996. EPA recommended that CCC undertake several additional activities at the site, including the installation of additional monitoring points down gradient from the existing monitoring wells and near the intermittent stream. The purpose of these additional monitoring points was to provide additional information for demonstrating groundwater flow and discharge. CCC conducted additional aquifer sampling in FY 1996, because groundwater flow and the contaminant plume had not been observed since the issuance of CCC=s final report to EPA in FY 1993. In FY 1997, additional monitoring points were installed and a preliminary groundwater flow model was developed. However, access to certain properties where additional monitoring points were needed was not obtained through FY 1998. All access issues were resolved in FY 1999 and a complete set of aquifer sampling locations was put in place.

FY 2000 WORK: Sampling from all of these locations continued into FY 2000. The data collected will be evaluated for use in the development of a contaminant transport model.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Navarre, Kansas

STATUS: Non-Docket. Non-NPL.

NARRATIVE: EPA identified the CCC as a PRP at Navarre. Several of the unincorporated community's private drinking water wells were found to be contaminated with carbon tetrachloride in 1990. KDHE conducted a PA in 1991 and 1992, under an agreement with EPA. CCC initiated an alternative water supply study in early 1992 to examine alternate water options for residents. The study was completed in June 1992, recommending that bottled water be provided until a permanent solution could be found. Shortly thereafter, CCC made arrangements for the procurement and delivery of bottled water to all residents. CCC subsequently also began providing residents with carbon filtration units in 1993. CCC initiated site characterization activities in early 1992 to determine the source and extent of the contamination. These activities were completed in 1993. A final feasibility study (FS) was issued in FY

1995. The FS delineated the quantity and extent of the carbon tetrachloride contamination, future migration patterns, and the associated risk of such migration. The study examined several alternatives for remediating the contamination but concluded that none of the alternatives would return the groundwater to drinking water standards because of high nitrate concentrations in the aquifer. The study also concluded that if a permanent alternate water supply could be provided for Navarre, then the carbon tetrachloride in the aquifer may be allowed to proceed toward natural attenuation. The study used EPA protocols in calculating analytical solute transport models that indicated that natural restoration may occur before the contaminant plume migrates 10,000 feet from town. It was also determined that no current residents outside of town would be affected by the plume. Since the completion of its investigations at the site, CCC concentrated its efforts on determining the feasibility of connecting Navarre residents to a permanent clean water source. A nearby rural water district was identified that was considering expansion into the Navarre area. KDHE conducted an investigation of the nitrate contamination in 1997. In FY 1999, CCC entered into a reimbursable agreement with KDHE, in which KDHE would connect residents to Dickinson County RWD #2.

FY 2000 WORK: KDHE began to review CCC documents for this site as part of the agreement entered into by CCC and KDHA in FY 2000. Construction of the RWD to connect the affected residents ongoing.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Plainville, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: One of the city's public water supply wells is contaminated with carbon tetrachloride. The well is no longer in service. The city receives ample, clean water from numerous other public wells. KDHE has conducted a PA/SI. CCC conducted an evaluation of the data contained in these investigations in preparation for conducting characterization activities at the site. However, this evaluation determined that CCC was not responsible for the carbon tetrachloride contamination. The evaluation determined that the former CCC site was located over one mile outside of town and was not upgradient to the contaminated well.

FY 2000 WORK: KDHE reviewed the site files and concluded that no further action by CCC was needed at this site.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Potwin, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: City has ample supply of clean drinking water provided by Butler County RWD #7, which has provided the community with drinking water since 1982. The well contaminated with carbon tetrachloride is no longer in service. KDHE has conducted a PA/SI. CCC conducted a data evaluation of all KDHE investigative reports and conducted a site visit, in preparation for conducting site characterization activities. However, this evaluation determined that the town=s aging public wells have a multitude of contamination problems not associated with carbon tetrachloride, including inorganics and petroleum refinery spills. Refinery cleanup is ongoing. These problems were the reason the town connected to the RWD. Due to these findings, the CCC discontinued characterization activities.

FY 2000 WORK: No further action planned for the site.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Ramona, Kansas

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The underground aquifer supplying drinking water to several domestic wells at Ramona is contaminated with carbon tetrachloride. Contamination was first detected in 1988. CCC provided bottled water and carbon filtration units to the residents with contaminated wells. Almost all village residents, including all residents with contaminated wells, connected to the Marion County Rural Water District in 1995. The connection was financed by a USDA rural development grant. The CCC began site characterization activities in 1994 but was unable to complete the study due to problems obtaining access to certain properties. CCC requested the assistance of EPA Region VII in gaining access in FY 1998. EPA responded in FY 1999 how it had assigned the site the status of ANFRAP@- no further remedial action planned- under its CERCLIS tracking system. Since the Superfund program does not currently plan any response action at the site, EPA stated that it does not anticipate using CERCLA authority to obtain access for any party conducting investigations at the site. EPA has allowed KDHE to assume lead agency status at the site. Site characterization work discontinued until access issues resolved. Under the terms of the intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000, the

CCC site characterization work is slated for review by KDHE at some point in the near future.

FY 2000 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Raymond, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride has been detected at levels below the MCL in Raymond=s public water supply system since 1990. NDOH has monitored the town=s water supply since that time. Even though contaminant levels have never exceeded the MCL during this monitoring work, the contaminant has consistently been detected, causing the State to notify EPA that a potential health risk existed at the site. EPA completed a PA for the site in FY 1997, concluding that the former CCC facility was the source of the contamination. Private drinking water wells in the vicinity of the former CCC facility were sampled during the PA, with two wells found having detection levels above the MCL. CCC subsequently provided a permanent alternate water source to one of the affected residences. The other affected residence declined alternate water. CCC initiated site characterization activities late in FY 1997 and completed these activities in FY 1998. An FS was initiated in FY 1998. The FS was completed in FY 1999, recommending that a remediation system be put in place. Also, CCC learned that the village was pursuing funding to upgrade its water system, including installation of a new public well. Discussions with the village and regulators were initiated due to concern that the CCC=s proposed remediation system and the village=s planned water system upgrades may negatively impact one another. CCC=s goal in these ongoing discussions is to ensure that the two efforts can be coordinated and be complementary**.**

FY 2000 WORK: CCC commenced with preliminary design work on a remedial system intended to provide a supplementary water source to the existing municipal system. Access issues with an adjacent landowner have prevented the conduct of an aquifer pump test originally planned for early FY 2001. Discussions are ongoing between CCC, the Village, and the landowner regarding placement of extraction wells as well as the possible connection of water supply mains to residential lots currently being developed to the east of the village. The planned residential development to the east overlies part of the CCC plume and data gathered as part of the characterization effort indicates that these households would require an alternative water source to a domestic well due to carbon tetrachloride

contamination. Since the Village has not committed to making connections with these planned residences, CCC has been unable to gain access to the property on which two of three planned extraction wells are to be installed**.**

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Shelby, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride in excess of the MCL was detected in Shelby's public water supply in 1990 by NDOH. EPA conducted a PA in FY 1991 and an SI in FY 1993, which identified the former CCC facility as a source of the contamination. CCC conducted an alternate water supply study in FY 1992 to determine if a removal action was necessary. CCC determined that the town needed an alternate water supply and concluded, after discussions with EPA, NDOH and the town, that an air stripper treatment system would provide the best solution to meet Shelby=s water needs. CCC initiated a remedial design evaluation/review of a treatment system in FY 1994. The U.S. Army Corps of Engineers, on behalf of the CCC, completed the design of a treatment facility and construction commenced in FY 1995. The system became operational in FY 1996. The CCC has entered into a settlement agreement with the community, whereby the town operates and maintains the treatment system and CCC reimburses the town for its operations and maintenance expenses annually.

FY 2000 WORK: CCC continued to work with the town in ensuring the effectiveness of the treatment system, under the terms set forth in the settlement agreement.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Tamora, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The aquifer supplying drinking water for several private drinking water wells at Tamora is contaminated with carbon tetrachloride at levels exceeding the MCL. Contamination was first detected in 1992 by NDOH. In FY 1992, EPA conducted a removal action at the site, providing bottled water to residents with contaminated wells. EPA then requested that CCC assume responsibility for installing carbon filtration units to the wells of the affected residences. EPA completed a PA in early FY 1993 and an SI later in FY 1993. Filtration units were installed in FY 1993. The former CCC site was located outside of town limits and

was considered a possible source of contamination, along with an agricultural cooperative located in town. In discussions with EPA and State regulators in early FY 1994, it was agreed that the CCC would conduct site characterization activities at the site. However, in conducting its data evaluation in preparation for site characterization field work, CCC determined that its former facility was not the source of the contamination. This finding was based on data provided in the PA/SI that the former CCC facility was not located near the contaminant source area and is not hydraulically upgradient of the contaminated wells. Therefore, site characterization activities were discontinued.

FY 2000 WORK: No further action planned at this time.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Utica, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Utica's public water supply system was found to be contaminated with carbon tetrachloride in 1986 by NDOH. EPA conducted a PA and SI and subsequently informed CCC that it had been identified as the source of the contamination. Levels as high as 695 ppb have been detected in the contaminated public well, which is no longer in service. The town has also experienced nitrate problems with its drinking water system. Ultimately, the town decided to construct a new public well in order to continue to be able to provide an ample supply of clean drinking water to its residents. The new well experienced iron and manganese problems resulting in the town=s financing of the construction of a treatment facility. The treatment system began operation in 1995. The town now has an ample supply of clean drinking water for its residents. In FY 1992, CCC initiated site characterization activities at Utica, which were completed in FY 1994. These studies identified a contaminant plume that extends about 3,200 feet down gradient from the former CCC site and also a potential soil source under the site. An FS was initiated in FY 1994 and completed in FY 1995. The report suggested that a groundwater extraction well system was needed to achieve removal of the contaminant plume and contain the potential soil source. A baseline risk assessment was conducted in FY 1995 for the no-action alternative, with results demonstrating unacceptable risks. Remediation is needed, as human health will be at risk in future years if groundwater with significantly elevated concentrations of carbon tetrachloride is not treated. CCC has since proceeded with investigations aimed at identifying a preferred remedial strategy for the site that is technically, logistically, and economically viable. CCC began working on developing an innovative strategy that addresses remediation of the

contaminant plume and treatment and provides a beneficial use for disposing of the treated water. Water disposal is a key issue because drainage patterns in the area are not well defined or extensive. CCC conducted numerous discussions with the community and EPA and State officials regarding this approach. CCC also negotiated a settlement agreement with the community in FY 1998, which reimbursed Utica for costs it has incurred in upgrading its water system due to the contamination problems. In FY 1998, CCC initiated an environmental/agricultural enhancement pilot project at the site. The purpose of the project was to evaluate the feasibility of an integrated extraction, treatment, and discharge strategy for contaminant removal that would result in a beneficial reuse of the groundwater. In FY 1999, CCC completed Stage I of its pilot project evaluating the feasibility of using spray irrigation and wetlands augmentation as a means of carbon tetrachloride remediation. Analysis of collected data demonstrated that remediation and wetlands augmentation can be achieved using seasonal pumping and spray irrigation. CCC continued to hold discussions with the community and regulators to keep them abreast of the progress and results of the pilot project and to ensure their support of these efforts. Phase II of the project, scheduled to commence in FY 2000, will involve field testing of the complete process of groundwater extraction, treatment using spray irrigation, and delivery to a nearby wetlands.

FY 2000 WORK: Phase II activities were conducted that more accurately defined the seasonal parameters under which this process can be used to effectively remediate the Utica aquifer. Preliminary engineering design of the delivery system was completed. Discussions with State agencies continued through FY 2000 and into FY 2001. Design and construction of the system are scheduled to be completed in FY 2001, with delivery of supplementary water to the wetland basin scheduled to commence in the second quarter of FY 2002.

FACILITY: **Formerly Operated Grain Storage Facility**
Walton, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was first detected in several private drinking water wells by the Lincoln-Lancaster County Health Department in 1988. EPA conducted a PA in 1989 and an SI in 1990. The SI stated that CCC formerly stored grain at the site. The village received a community development block grant in 1991 and all residents were connected to the Cass County Rural Water District in late 1991. In 1993, EPA provided CCC with a listing of all former CCC facilities where carbon tetrachloride had been detected. Walton appeared on this list and on a

subsequent updated list provided to CCC in 1995. In discussions with EPA and State regulators in FY 1997, it was agreed that CCC would conduct site characterization activities at the site. In FY 1997, CCC initiated a data evaluation of the site in preparation of site characterization activities. The results of this evaluation found no evidence that CCC operated a facility in Walton. These results were based on interviews with long-time town residents and Nebraska Farm Service Agency employees, records searches in the county courthouse, and reviews of old aerial photographs. Regulators were informed of these results and the investigation was discontinued.

FY 2000 WORK: No further action planned at this time.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Waverly, Nebraska

STATUS: Non-Docket. NPL (Non-Federal) (Listed on the NPL in June 1986).

NARRATIVE: In 1982, two of Waverly's public water supply wells were found to be contaminated with carbon tetrachloride. EPA conducted preliminary investigations in 1985 and the site was listed on the NPL in 1986. EPA named CCC as a PRP in 1987. CCC negotiated a settlement agreement with the community in 1988, providing reimbursement to the town for costs associated with installing new public wells. The city now has an ample supply of safe, potable drinking water provided by several public wells. EPA elected to mitigate the contamination through an Expedited Response Action (ERA). The ERA called for the installation of a soil and groundwater remediation system. EPA installed the ERA system in 1988. The system consisted of a groundwater extraction well (GWEX), an air stripper for treating the contaminated water, and a vapor extraction system (VES) for treating soil source concentrations. CCC and EPA signed a Compliance Agreement in 1988, which called for CCC to assume responsibility for operation of the ERA system. The agreement also required CCC to reimburse EPA for its past costs at the site. EPA issued a record of decision in FY 1991. The VES was shut down in FY 1993. A supplementary groundwater extraction well (SGWEX), was added to the system in FY 1994 to capture a groundwater contamination plume northeast of the site that had not been identified in the previous EPA investigations. Since that time, cleanup has continued uninterrupted and without problems with the treatment system. In FY 1995, the GWEX was shut down, leaving the SGWEX as the only operating extraction well. As lead agency for the site, EPA has carried out most community involvement activities with the town. In FY 1999, EPA concurred with CCC=s recommendation to shut down the air stripper system and to pump extracted groundwater (now having contaminant concentrations

consistently below the MCL) directly to the existing discharge point. CCC continued monitoring at the site. Pumping will cease upon achievement of the groundwater restoration goals.

FY 2000 WORK: EPA began the process to delete the Waverly site from the NPL. CCC provided monitoring data as required by EPA, and continued to do so into FY 2001.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Webber, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: KDHE identified carbon tetrachloride contamination above the MCL in one private drinking water well in FY 1997. CCC subsequently provided alternate water to the affected residence. KDHE also identified contamination in four additional private wells below the MCL. KDHE completed a Phase I Comprehensive Investigation, identifying CCC as a PRP.

FY 2000 WORK: A search of CCC records is ongoing to determine PRP status, and the affected resident was connected to the rural water district line.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Wymore, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in FY 1995 by NDOH in a private drinking water well. The well is located about 2 mile from the village of Wymore. CCC operated a grain storage facility on the property where the contaminated well is located. CCC subsequently provided the affected residents with a permanent alternate water supply by connecting them to a rural water district pipeline that originates in nearby Barneston, Nebraska. CCC conducted a limited sampling program at the site in FY 1997, with results showing no contamination in any other private drinking water wells in the rural area.

FY 2000 WORK: No further action planned at this time.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Yates Center, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: CCC identified carbon tetrachloride in a private drinking water well in FY 1997 and is providing alternate water to the affected residents.

FY 2000 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
York, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The underground aquifer system supplying drinking water to parts of the community was found to be contaminated with carbon tetrachloride at levels in excess of the MCL in 1990 by NDOH. EPA conducted a PA in 1990 and an SI in 1991, concluding that past grain fumigation activities at the former CCC facility were responsible for the contamination. In FY 1992, CCC initiated an alternate water supply study to determine if a removal action was necessary at the site. It was determined that several residences and businesses needed to be placed on an alternate water supply. CCC negotiated and ultimately contracted with the city to connect affected residences and businesses in FY 1993. CCC conducted site characterization activities in FY 1993 and FY 1994. An FS was conducted in FY 1995. A final FS was issued in FY 1996, recommending consideration of a groundwater extraction system to remediate the aquifer. There are other significant VOC problems besides carbon tetrachloride in the aquifer system not associated with the former CCC facility that need to be addressed by EPA and State regulators. The specifics of a recommended treatment system for the carbon tetrachloride contamination cannot be determined until negotiations between EPA and the State are completed. Negotiations continued through FY 1999 into FY 2000.

FY 2000 WORK: Negotiations between the regulators continued.

FOREST SERVICE
REGION ONE

FACILITY: **Barker-Hughesville Mining District, Lewis and Clark National Forest, Great Falls, Montana**

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). In 1994, the Forest Service and the Montana Department of Environmental Quality cooperatively completed a site inspection and draft Hazard Ranking System (HRS) score. The draft HRS score was 52.8.

NARRATIVE: The Barker-Hughesville Mining District contains numerous waste-rock dumps, acid mine-water discharges, and a large mill tailings impoundment (Block P). Most of the waste-rock dumps and adit discharges are located on private lands, while the Block P tailings impoundment is located on National Forest System lands. The impoundment has breached and has been eroding into and filling the lower impoundment. The tailings contain elevated levels of arsenic, lead, zinc, and copper. Deposits of tailings are visible for several miles downstream of the impoundments.

The Forest Service completed a PA and PA prescore for the district in May 1991, and December 1991, respectively. In 1994, the Forest Service and Montana Department of Environmental Quality entered into a participating agreement to complete a site inspection and compute a HRS score for the District. The Forest Service completed a time-critical removal in March 1995, to help stabilize the Block P tailings impoundments and to prevent a massive release of tailings onto private lands and eventually into Galena Creek and the Dry Fork of Belt Creek. Also, in 1995, the Forest Service contacted a Potentially Responsible Party (PRP) to conduct response actions. In 1997, the Forest Service worked with the PRP for site investigation and characterization work. In 1999, discussions continued with the PRP, EPA, Office of the General Counsel (OGC), Department of Justice and Montana Department of Environmental Quality. In 1999, EPA, the PRP and the Forest Service entered into an Administrative Order on Consent for the Block P tailings EE/CA.

FY 2000 WORK: The PRP, through their consultant submitted a draft EE/CA for the Block P tailings impoundment. The public review process was completed and it is anticipated that the final EE/CA and Action Memorandum will be issued in 2001. Implementation of the recommended alternative is planned for 2001, and 2002. Also, EPA is considering NPL listing in 2003.

FACILITY: **Lower Elkhorn Mine and Mill Site, Beaverhead-Deerlodge National Forest, Dillon, Montana**

STATUS: Docket. Non-NPL. (Listed on the December 15, 1989, docket). The Forest Service completed a draft site inspection (SI) and an HRS score in 1995. The SI and prescore were never finalized as the Forest Service decided to move ahead with a non-time-critical removal action.

NARRATIVE: The lower Elkhorn Mine and mill site consists of a discharging adit that flows over and through a waste-rock dump and an unconfined tailings pile in the natural channel of Elkhorn Creek. Water samples from Elkhorn Creek downstream of the site exceed aquatic life standards for aluminum, cadmium, copper, lead, and zinc. Upstream of the site, Elkhorn Creek exceeds the aquatic life standard for zinc.

The Forest Service completed a PA and PA prescore for the site in June 1991 and December 1991, respectively. In 1995, the Forest Service completed a PRP search, a draft SI, and an HRS score. In 1997, the EE/CA was completed, the recommended alternative identified, and construction began. This phase of the project was completed in 1998. In 1999, implementation began on Phase II dealing with the stream reconstruction designed in 1998 and 1999.

FY 2000 WORK: Phase II dealing with the stream reconstruction was mostly completed with the exception of stream bank plantings.

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FACILITY: **Charter Oak Mine and Mill Site,**
Helena National Forest, Helena, Montana

STATUS: Non-Docket. Non-NPL. The Forest Service began a series of non-time-critical removals at this site in 1996.

NARRATIVE: The Charter Oak Mine and Mill site consists of numerous waste-rock dumps located on very steep slopes, mill tailings located within the floodplain of the Little Blackfoot River, and acid mine discharges from several adits. The mining/milling wastes and adit discharges are very high in arsenic and lead.

The Forest Service completed a removal site evaluation in May 1994. In 1995, the Forest Service completed a PRP search and identified no viable PRPs. Also in 1995, the Forest Service properly disposed of miscellaneous hazardous wastes that were present at the site. In 1997, the Forest Service constructed drainage controls around the waste-rock dumps to limit leaching of metals and to stabilize the dumps. The State of Montana, through a grant to Powell County, contributed approximately

$300,000 for this work. In 1998, the waste rock dump response action was completed. No further actions other than monitoring are planned; however, if technologies later become available to effectively deal with the adit discharge in a cost-effective manner, then further work on the discharges may occur.

FY 2000 WORK: Continued to monitor the action.

FACILITY: **Silver Crescent Mine and Mill Site, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-Docket. Non-NPL. The Forest Service began a non-time-critical removal at this site in 1995.

NARRATIVE: The Silver Crescent mine and mill site consisted of flotation tailings that were eroded by the East Fork of Moon Creek, jig tailings and waste-rock dumps, and several adit discharges. Water samples from the East Fork of Moon Creek below the site exceeded the maximum contaminant level for cadmium, copper, lead, and zinc. Residents live within a couple of miles of the site and the public uses the site heavily.

The Forest Service completed a PRP search in 1995, and identified no viable Potentially Responsible Parties. In 1997, the Forest Service completed the EE/CA and the design for the recommended alternative. Construction began in 1998 and continued through 1999.

FY 2000 WORK: The response action was completed in 2000. Initial monitoring results indicated significant reductions in metals loading to Moon Gulch Creek.

FACILITY: **Nancy Lee Mine Site, Lolo National Forest, Missoula, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service and the Montana Department of Environmental Quality entered into an agreement to complete a non-time-critical removal in 1996.

NARRATIVE: The Nancy Lee Mine complex consists of numerous adits, associated waste-rock dumps, and mill tailings on mixed public (National Forest System) and private lands. Tailings were apparently discharged from the mill and sluiced into small impoundments within Mill Gulch Creek. These impoundments have been breached, and tailings have been eroded and redeposited within the Mill Gulch Creek floodplain for a distance of approximately 0.8 mile downstream of the mill site. The lowest waste-rock dump has covered the mill site, has a very steep slope, does not

support vegetation, and is also eroding into Mill Gulch Creek. Upper waste-rock dumps are unvegetated and are also a source of sediment. The mining/milling wastes have elevated concentrations of arsenic, copper, lead, and zinc.

In 1996, the Forest Service began land farming (bio-remediation) of the petroleum-contaminated soil at the site. In 1997, the Montana Department of Environmental Quality (MDEQ), in cooperation with the Forest Service, began work on the EE/CA to identify the recommended alternative. The Forest Service began a PRP search to determine if there are viable PRPs. In 1998, the MDEQ completed the EE/CA for the private lands and started the implementation of the preferred response action. In 1999, land farming of the petroleum-contaminated soil was completed.

FY 2000 WORK: The Forest Service completed the PRP search. The Forest Service worked on the EE/CA with implementation of the response action planned for 2001.

FACILITY: **Highland Millsite, Beaverhead-Deerlodge National Forest, Dillon, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service began a non-time critical removal in 1996.

NARRATIVE: The Highland Mill site is an abandoned mineral processing facility located in the upper portion of the Middle Fork of Moose Creek in the Highland Mountains south of Butte, Montana. The mill site consists of the abandoned mill and associated debris, and four tailings ponds in the Middle Fork of Moose Creek drainage. An estimated 51,425 cubic yards of tailings are actively being eroded into the drainage. A viable PRP has been identified. The State of Montana, through a grant to the Mile High Conservation District, contributed $256,000 for the cleanup work. The recommended alternative was total removal of the mill wastes to an on-site repository.

In 1996, the Forest Service started the Site Investigation and draft EE/CA. In 1997 the design for the recommended alternative was initiated. In 1998, the EE/CA and design continued. In 1999, the design for the recommended alternative was completed. A contract was awarded for removal activities at this site in 1999.

FY 2000 WORK: Excavation and removal of mill wastes and disposal in an on site repository was completed.

FACILITY: **Tarbox Mine Site, Lolo National Forest, Missoula, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service began a non-time-critical removal in 1998.

NARRATIVE: The Tarbox Mine Site is an abandoned mine located in the upper portion of the Packer Creek drainage in the Coeur d'Alene Mountains north of Saltese, MT. Tarbox Mine comprises an 800 foot shaft and nearly 4,300 feet of mine workings. An unnamed tributary creek into Packer Creek is actively eroding an estimated 14,100 cubic yards of waste rock containing elevated levels of arsenic, copper, cadmium, lead, and zinc.

In 1998, the Forest Service started the Site Investigation and EE/CA. In 1999, the Forest Service continued the Site Investigation and EE/CA.

FY 2000 WORK: The EE/CA was completed and design for the recommended alternative was started. Implementation of the recommended alternative is planned for 2001.

FACILITY: **Coeur d'Alene River Basin, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-Docket. Non-NPL. Site is adjacent to Bunker Hill NPL site. The NRDA is in litigation.

NARRATIVE: The Coeur d'Alene Basin Natural Resource Damage Assessment encompasses the South Fork of the Coeur d'Alene River and the Coeur d'Alene River downstream from the confluence with the South Fork. The action is being cooperatively undertaken by the Forest Service, the U.S. Department of the Interior (Fish and Wildlife Service and Bureau of Land Management), and the Coeur d'Alene Tribe of Idaho. In FY 1995, the injury-determination studies were essentially completed and the damage-quantification process began. Technical restoration teams have been established for various parts of the basin and are developing restoration alternatives for analysis. The damage assessment was completed by the middle of FY 1997. Project managers for each of the natural resource trustees coordinate all work. Management direction is provided through a trustee council composed of the Regional Forester, Northern Region Forest Service; Director, Northwest Region Fish and Wildlife Service; and Chairman, Coeur d'Alene Tribe. The Natural Resource Trustees filed a lawsuit against several Potentially Responsible Parties in 1996, in US District Court . In 1999, EPA (Region 10) conducted an expanded site RI/FS.

FY 2000 WORK: EPA (Region 10) continued the expanded site RI/FS. The NRDA lawsuit continued.

FACILITY: **Non Pareil Mill Tailings, Beaverhead-Deerlodge National Forest, Dillon, Montana**

STATUS: Non-Docket. Non-NPL. The Montana Department of Environmental Quality, in partnership with the Forest Service, completed a preliminary EE/CA and began a two-year monitoring program in 1996.

NARRATIVE: The Non Pareil tailings are within the floodplain of Boulder Creek and are located mostly on National Forest System lands. There are four main tailings impoundments. Two of the piles were removed and disposed of in the Brooklyn mine site repository in 1995. The other two tailings impoundments have water flowing over them that originates from springs on the site. Boulder Creek flows around the site and joins with the impoundment discharge just below the last tailings dam. Lead from the impoundments is affecting the water quality of Boulder Creek.

FY 2000 WORK: In 2000, with the information collected, the Forest Service started an EE/CA for the remaining waste materials.

FACILITY: **Combination Mill Tailings, Beaverhead-Deerlodge National Forest, Dillon, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service is cooperating with a voluntary cleanup effort by ASARCO Corp.

NARRATIVE: The Combination Mill tailings lie in the floodplain of Lower Willow Creek. In 1989, a thunderstorm produced over bank flooding. Large areas of the tailings were scoured and eroded into the streams. In 1992, the Forest Service completed a study that recommended several measures to help control erosion and the subsequent release of tailings with elevated levels of heavy metals into Lower Willow Creek. In addition, the Forest Service completed a land-line survey and discovered that most of the tailings were on private land surrounded by National Forest System lands. The Forest Service contacted ASARCO, the owner of the tailings. Through ongoing discussions with ASARCO and State of Montana officials, ASARCO agreed to voluntarily cleanup the tailings. ASARCO began construction in late summer of 1994. ASARCO reestablished the original stream channel of Lower Willow Creek and constructed berms to keep Lower Willow Creek in its natural channel and off of the tailings. In 1995, ASARCO incorporated lime and seeded the tailings. Some

additional minor stabilization and stream restoration work was begun in 1997 and was completed in 1998.

FY 2000 WORK: The Forest Service continues to monitor the work that ASARCO completed. There is some concern about the long-term effectiveness of the actions taken.

FACILITY: **Riley Pass Uranium Mines Site, Custer National Forest, Billings, Montana**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The North Cave Hills are steep-sided and generally flat-topped buttes that are rimmed with sandstone cliffs. The Riley Pass uranium mines are abandoned lignite strip mines located on relatively flat areas along the top of twelve buttes. The mines are primarily within the Sioux Ranger District of the Custer National Forest, but a small fraction are situated on private land. They cover a total of approximately 340 acres of high walls, pit floors, and spoils. Some of the spoils were pushed over the edges of the buttes onto the steep slopes below the rim rocks during mining. Additional spoils have been deposited on these slopes by subsequent water and/or wind transport. The PRP was sent a 104(e) letter and a reply was received. In 1999 a draft Site Investigation was started

FY 2000 WORK: Completed the Site Investigation and began the EE/CA.

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FACILITY: **Buckeye/Enterprise Mines, Beaverhead-Deerlodge National Forest, Dillon, Montana**

STATUS: Non-Docket. Is within the Basin Creek NPL site.

NARRATIVE: The Enterprise mine site is primarily on private lands and the Buckeye tailings are primarily on National Forest System Lands. This is a joint action with EPA Region 8 and the Forest Service. The site consists of several waste rock piles and tailings deposit near a stream. In 1999, an agreement with EPA and the Forest Service was signed. This established co-lead on the response actions.

FY 2000 WORK: The planned implementation was started. Waste will be taken to Luttrell Pit joint mine waste repository at the Basin Creek Mine NPL site for disposal. The extreme fire season in 2000 limited activities in the area.

FACILITY: **Beatrice/Justice/Armstrong Mines, Helena National Forest, Helena, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service began a non-time critical removal in 1998.

NARRATIVE: Environmental impacts present at the three mines are limited to waste rock and acid mine drainage. The total area covered by the mine wastes dump is 3.1 acres and total volume of waste rock is about 21,700 cubic yards. Metal concentrations are elevated more than three times over background levels for numerous metals, with concentrations of arsenic and lead most notable. The recommended alternative was total removal of mine waste from the Beatrice/Justice/Armstrong Mines to the Luttrell Pit waste repository. In 1998 and 1999, the Forest Service completed the Site Investigation, EE/CA, and design for the recommended alternative. A contract was awarded for removal actions at this site in 1999

FY 2000 WORK: The response action was 85% completed with the remaining work scheduled for 2001.

FACILITY: **Rainy Hill/Medimont Boat Launch, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-docket. Non-NPL.

NARRATIVE: This site is located above a campground and contained high arsenic levels in approximately 1500 cubic yards of soil resulting from mine waste deposits. The Forest Service conducted a time critical removal action of the soils. The soils were removed and placed in a repository.

FY 2000 WORK: Monitoring is planned for 2000 and 2001.

FACILITY: **Jack Waite Mine Site, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-docket. Non-NPL.

NARRATIVE: This site is located primarily on National Forest Systems lands with some private lands. The contamination consists of waste piles, four tailings impoundments and adit discharges. This is a joint action with EPA Region 10 and the Forest Service. Negotiations for an Administrative Order on Consent (AOC) with ASARCO and the Jack Waite Mining Company were started in 1999. Water quality monitoring was also started.

FY 2000 WORK: The AOC negotiations continued during the year for conduct of the EE/CA. Negotiations are scheduled for completion in 2001.

FACILITY: **Gold Creek Mine Complex, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-docket. Non-NPL.

NARRATIVE: The Forest Service started watershed characterization of the Gold Creek drainage due to concerns with a delta forming in Lake Pend Oreille with elevated levels of arsenic and other metals. The PRP searches were started and the Forest Service began cooperative work with EPA Region 10 and the State of Idaho concerning the contamination in Lake Pend Oreille. In 1999, the Forest Service finished the initial characterization and the initial PRP searches.

FY 2000 WORK: The information requests to the PRPs were sent out. The final characterization of the drainage was started, however due to the elevated forest fire danger, this work was not completed. Characterization is scheduled for completion in 2001.

FACILITY: **New World Mining District, Gallatin National Forest, Bozeman, Montana**

STATUS: Non-docket. Non-NPL.

NARRATIVE: This site consists of a number of watersheds impacted by historical mining on what was a new proposed gold mine adjacent to Yellowstone National Park on private land and National Forest System lands. In a joint settlement, the U.S. Government acquired the private lands and the company agreed to fund a cleanup for past mining contamination. The EPA Region 8 initiated water quality characterization in 1998, by drilling several wells and working with USGS on Fisher Creek surface water characterization. The finalization of the acquisition and settlement was completed and the lands were transferred to the jurisdiction of the Forest Service. The Forest Service was designated as lead agency for the CERCLA action with EPA, DOI, and the Montana Department of Environmental Quality acting as supporting agencies. Work in 1999, consisted of public involvement in the project, characterization of the various sources of metals, improvements to road systems and a determination of where waste could be properly managed.

FY 2000 WORK: The first EE/CA was completed and the first response action was designed. The first of several phased response actions is planned for 2001.

FACILITY: **Mike Horse Mining District/Upper Blackfoot River Mining Complex Site, Helena National Forest, Helena, Montana**

STATUS: Non-docket. Non-NPL.

NARRATIVE: ASARCO and ARCO have implemented cleanup work at the site on private lands using a voluntary action under Montana Department of Environmental Quality oversight. However, wastes from the sites on National Forest System lands were not addressed. Subsequently, the Forest Service completed the PRP search and determined that ASARCO and ARCO are potentially responsible parties and entered into negotiations with them. In 1999, negotiations with ASARCO for an Administrative Order on Consent (AOC) to characterize the waste sources and conduct an EE/CA were initiated.

FY 2000 WORK: The AOC negotiations with ASARCO, and the Forest Service continued and are scheduled for completion in 2001. The PRP conducted EE/CA is planned for 2001.

FOREST SERVICE
REGION TWO

FACILITY: **Little Bear Creek, Arapaho Roosevelt National Forest**
Ft. Collins, Colorado

STATUS: Non-Docket. NPL (Non-Federal facility). The site is located within the Central City NPL Site. Work is being cooperatively undertaken by the Forest Service, the EPA, and the Colorado Department of Health as a non-time-critical removal action.

NARRATIVE: The Little Bear unit falls within the Clear Creek NPL site, which consists of three operable units. The site has both environmental degradation and physical hazards that require response. The environmental hazards include the mine dump, composed of sulphide-bearing waste rock, and high acid mine drainage leaking from one of the adits. In 1993, the Department of the Interior took water samples to characterize the surface water drainage system at the site. The results showed acid mine drainage was contributing metals to Little Bear Creek. A response plan has been approved and cleanup has been completed.

FY 2000 WORK: Monitoring will continue through 2001. A "blowout" occurred in the adit in October 2000. It is probable that mine drainage had backed up behind a collapse in the adit and that the collapse gave way, releasing backed up water. The Forest Service will continue to monitor the adit drainage. The surface was successfully re-vegetated and the stream channel of the Little Bear Creek was reconstructed.

FACILITY: **Lion Creek, (Minnesota Mine), Arapaho Roosevelt National Forest**
Ft. Collins, Colorado

STATUS: Non-Docket. NPL Site (Non-Federal). The site is within the boundaries of the Clear Creek NPL site. This is a cooperative effort between the Forest Service and the EPA. A non-time-critical removal action has been completed.

NARRATIVE: The Lion Creek Mine is part of the Clear Creek NPL site. EPA collected samples from the Lion Creek drainage to evaluate metals loading. The samples indicate that the Minnesota Mine is contributing to the degradation of water quality. An EE/CA was completed. A PRP search was completed in late 1994. The PRP search indicates that approximately 50 percent of the land area covered by the Minnesota Mine's tailings pile is owned by private parties pursuant to patented mining claims. The EPA has conducted an ability to pay analysis and does not consider the private

parties viable. The remainder of the area consists of National Forest System lands with unpatented claims or lands that are not the subject of any claim. Removal action plans and specifications were complete and the on-the-ground removal is complete.

FY 2000 WORK: Monitoring and Operation and Maintenance (O&M) will continue through 2002.

FACILITY: **Bonanza Mining Area, Rio Grande National Forest**
Monte Vista, Colorado

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). Four (4) PRP-conducted voluntary removal actions have occurred.

NARRATIVE: The site was a lead/zinc/silver mining district circa 1880-1930 with substantial quantities of tailings deposited on both Federal and private lands in and adjacent to Squirrel and Kerber Creeks and with significant drainage from an adit. In 1991, a PA was completed, and a SI has also been done for the site. Notification and CERCLA Section 104(e) Information Request letters were sent to Forest Service-identified PRPs starting in December 1992, and a PRP committee was formed. A non-time-critical removal of 32,000 cubic yards of tailings was conducted at the Rawley 12 Millsite Operable Unit in 1994, in conjunction with State-permitted activities on adjacent private lands, and a time-critical removal (treatment and discharge) of 157,500 gallons of pond water was conducted in 1995 at the Superior Millsite Operable unit. Removal action on the Superior Mill site and work on the Cocomongo Operable Unit have been completed. CERCLA removal actions by private parties at the Rawley and Superior Operable Units are now substantially complete. Monitoring and O&M will continue for at least the next 5 years by the PRP.

FY 2000 WORK: Monitoring will continue. No further action planned.

FACILITY: **Nemo Ethylene Dibromide Disposal Site, Black Hills National Forest**
Custer, South Dakota

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Nemo Work Center Dump sites are located just west of the Forest Service Nemo Work Center in Nemo, South Dakota, and cover an overall area of approximately 20 acres. The site includes four backfilled dump sites that have a combined area of 0.23 acre.

The Nemo Work Center has been used for years by the Forest Service in administering the surrounding National Forest. The work center has seen continued activities for at least the past 50 to 75 years. In the past, it was common practice for dump sites to be located near the work centers to dispose of excess or damaged materials. The four pits were found to contain excess and damaged equipment, tools, and materials believed to have been disposed of during the 1970's. Ethylene dibromide and Lindane mixed with diesel fuel for control the pine beetles may have also been disposed of in the pits. A time-critical removal action was completed to cleanup the dump. Contamination of seven private wells in the area was discovered and a groundwater investigation and an alternative water system were completed utilizing a Memorandum of Understanding with the State of South Dakota.

FY 2000 WORK: Monitoring on-going.

FACILITY: **Gunnison Penta Sites:**

Cement Creek,
Pitkin GS,
Old Agency GS,
Roper Work Center,
Delta Work Center,
Grand Mesa, Uncompahgre, and Gunnison National Forests
Delta, Colorado

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Six sites on the Grand Mesa, Uncompahgre, and Gunnison National Forests in southern Colorado that had been used for treatment of wood posts were cleaned up. Product residue was found in dip tanks. Tanks and some contaminated soil were removed and disposed of. Removal action at Cement Creek and the Delta Work Center has been completed. Follow-up soil sampling at Pitkin GS and Roper Work Center discovered new areas of contaminated soil. Investigation at Old Agency discovered 2-4D contaminated soil.

FY 2000 WORK: The contract for the additional removal action has been awarded and work will continue into FY01.

FACILITY: **Woodland Park Work Center, Pike and San Isabel National Forest and Pueblo, Colorado**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This is an extensive soil contamination area resulting from an old Pentachlorophenol post treatment operation. The site also has two old dump areas scheduled for cleanup. There is an ongoing CERCLA removal action as well as a RCRA cleanup action pursuant to a consent order with the State of Colorado. The site is located adjacent to the town of Woodland Park with residential areas around it. Soil and ground water studies are 90% complete. Three ground water wells have been constructed and two rounds of testing are complete. One or two more years of monitoring are expected.

FY 2000 WORK: The removal action contract was awarded and construction will continue through 2003.

FACILITY: **Elk Mountain District Uranium Mining Area, Blue Lagoon Mine, Black Hills National Forest, Custer, South Dakota.**

STATUS: Non-Docket. Non-NPL. The PA and SI have been completed. Removal action is ongoing.

NARRATIVE: Waste rock and tailings from uranium mining are eroding into the adjacent creek. The mined area is trapping water. Currently, radioactive waste is migrating into the adjacent drainage. The PA has been completed. A PRP search is ongoing. The PA/SI and Removal Design have been completed.

FY 2000 WORK: Completed the contract for the cleanup scheduled for FY 2001.

FACILITY: **Minnesota Ridge Mine, Black Hills National Forest, Custer, South Dakota.**

STATUS: Non-Docket. Non-NPL. No viable PRP.

NARRATIVE: The site is a former gold mine which operated on and off from the late 1870's to the early 1940's. There is one draining adit, pH 2-3, and a waste rock pile partially located in Gimlet Creek that is tributary of Rapid Creek. The PA, SI, and EE/CA are completed.

FY 2000 WORK: The design was completed for the non-time critical removal and the action was started. Completion is expected in 2001.

FACILITY: **Upper Animas Abandon Mine Watershed Restoration Project, Colorado**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The watershed area consists of a series of mines located on private as well as national forest system lands. The cleanup effort is based on a total watershed approach. The BLM also has a large watershed effort in the area. Seven mines/areas are being studied. The sites consist of waste rock pits, tailings, and draining adits. An Animas River Stakeholders Group has been formed with the Forest Service as a member. The PA's have been completed on all seven sites. SI's have been completed on two sites. PRP searches are ongoing with one being completed.

FY 2000 WORK: Phase I of the Bonner Removal action was completed. PRP searches at the Ensle Tunnel and Burbank portal were also completed. PA's were started at several lower priority sites. The Forest Service is participating with numerous agencies and the Stakeholders Group in developing water quality standards for streams in the Upper Animas watershed. EE/CAs are scheduled for 2001.

FOREST SERVICE
REGION THREE

FACILITY: **Cemetery Tract Pistol Range, Santa Fe National Forest**
Santa Fe, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site on NFS lands was used by Los Alamos National Laboratory from the 1940's to the 1960's for small-arms target practice. The site was released back to the Forest Service in 1976. The shooting range was included in a tract of land that was to be exchanged between the Department of Energy and the Forest Service but was removed from the exchange package because of concerns with building residences on the lead-contaminated site. CERCLA requests for information were sent to the Department of Defense and the Department of Energy in 1992. The Department of Energy acknowledged responsibility for the shooting range and initiated a voluntary cleanup action in 1993 to reduce the level of lead in berms to allow the property to be used for residences. The shooting range site is planned for exchange with DOE.

Approximately 4,200 cubic yards of contaminated soil was excavated, washed, and removed from the site in FY 1996. An additional 4,200 cubic yards was removed in FY 1997. The DOE completed cleanup of the site in 1999, and is now awaiting clearance from the State.

FY 2000 WORK: The site is listed on a DOE RCRA permit and the State is in the process of a permit modification in which it will be removed from the permit. Then, the land exchange can take place.

FACILITY: **Hassayampa/Lynx Creek Mines, Prescott National Forest**
Prescott, Arizona

STATUS: Docket. Non-NPL.

NARRATIVE: The Hassayampa/Lynx Creek Abandoned Mines site consists of 11 mines, some of mixed ownership. Many of the mining-waste dumps and tailings piles are located in riparian environments along stream banks. The site was identified as a potential hazardous substance site and entered into the CERCLIS in 1991. A report, “Assessment of Abandoned Mines and Mills of the Prescott National Forest,” completed in 1990, prompted the Forest Service to send the report to the EPA as this site may have the potential to adversely affect the environment. The PA was sent to the EPA, Region 9,

in 1990. In1995, a PRP search and a Phase I Removal Action Site Investigation were completed.

In 1997, an analysis of the SI and discussions with the Arizona Department of Environmental Quality resulted in a determination that the majority of the problems are on private land and are not significantly impacting National Forest System land. Volumes of material are drastically different than what was presented in original PA.

FY 2000 WORK: Actions resumed at this site. In a cooperative effort with EPA Region 9, individual mine sites were characterized by the Forest Service.

FACILITY: **Mansfield Canyon Mines, Coronado National Forest, Tucson, Arizona**

STATUS: Non-Docket. Non-NPL. A PA was completed on January 31, 1994. The PRP search was completed in 1995 and a Natural Resource Damage Preassessment was completed in 1994.

NARRATIVE: The area is known as Mansfield Canyon Mines near Nogales, Arizona. Mining operations at 34 sites occurred between 1880 and 1950. During that time, large volumes of waste rock and mine tailings were generated in and along stream tributaries of the Mansfield Canyon, Temporal Gulch, and Piper Gulch watersheds. Potential groundwater contamination exists in water-filled adits and shafts; a domestic well located adjacent to the site is hydraulically connected to suspected contaminated groundwater at site and acidic leachate is produced at the site. The Forest Service completed a PA in 1994. Several mines are releasing heavy metals. The HRS score is 43.

PRP search and negotiations began in 1997. Completed actions include: mapping, Community Relations Plan, Action Memo, and EE/CA. The EE/CA was made available for public comment in 1998 and the Technical Response to Comments for the EE/CA were drafted in 1999.

FY 2000 WORK: Technical Response to Comments report was completed. This project is undergoing a review and will continue in FY 2001. Efforts to determine PRP viability are ongoing.

FACILITY: **San Mateo Mine, Cibola National Forest Grants, New Mexico**

STATUS: Docket. Non-NPL. (Listed on the August 1990, docket.)

NARRATIVE: This site is an inactive uranium mine with large quantities of mine-waste materials present. Degradation of surface and shallow groundwater quality is the result of erosion and leaching of these mine-waste dumps. Elevated amounts of radium-226, uranium, molybdenum, and gross alpha and beta particle activity were detected in both surface and shallow groundwater down gradient from the eroding mine-waste dump sites. A site assessment was conducted in 1989, the SI was completed in 1993.

A Non-Time Critical Removal Action Memorandum was completed in 1997. In cooperation with the Forest Service, the National Park Service conducted a Site Assessment to further evaluate the nature and extent of surface physical disturbance, and develop conceptual reclamation alternatives.

FY 2000 WORK: PRP negotiations are ongoing.

FACILITY: **Tonto Asbestos Roads, Tonto National Forest**
Phoenix, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Approximately 10 miles of road were surfaced with asbestos rock. These roads are located in a formerly active asbestos mining district where large deposits of chrysotile are located. During mining operations, waste rock containing chrysotile may have been applied as surfacing material for the mine haul roads. Airborne asbestos (from vehicular traffic and wind) may pose a risk to human health and the environment. A proposal for the PA for the Tonto Asbestos Roads was completed in 1997. A final round of sampling was conducted in 1997, that indicated the need for additional removal of contaminated material.

FY 2000 WORK: Removal is complete.

FACILITY: **Nacimiento Mine and Mill Site, Santa Fe National Forest, Cuba Ranger District**
Cuba, New Mexico

STATUS: Non-Docket. Non-NPL. The PA was completed in 1987, SI was completed in 1989, and expanded SI was completed in 1994 by the New Mexico Environment Department. The HRS score is less than 28.5.

NARRATIVE: This mixed-ownership site covers about 500 acres 3.5 miles southeast of Cuba, NM. Onsite features consist of a flooded open-pit copper mine and associated mill, tailings pile and pond, mine spoils piles, low-grade ore

dumps, and an abandoned in-situ leaching operation regulated under a New Mexico Environmental Department Discharge Permit. Deep erosion channels and areas lacking in vegetation are found across the site. There are three surface-water courses potentially affected by releases from the site. Elevated copper has been found in sediments of two of these. The tailings pile and pond are on State and possibly private land; the spoils piles and low-grade ore piles are on State, Federal, and private lands; the open pit is partially on National Forest System land with the remainder a patented claim; and the in-situ leaching operation is on National Forest System land. Property to the west and southwest is residential, and the property to the north, east, and south is uninhabited forest land. The in-situ leaching operation involved the injection of sulfuric acid, ferric sulfate, ferrous sulfate, and aluminum sulfate solution (estimated to be as much as 1.7 million gallons) into the underlying sandstone formation for recovery and processing at an onsite solvent extraction electrowinning plant. The leaching solution was injected underground, but none of the pregnant solution has been recovered. The injection wells were not been properly abandoned or plugged. The 3 million cubic yard tailings pile contains arsenic, copper, and zinc. The 172,000 cubic yard low-grade ore pile contains arsenic, copper, lead, and zinc. The 678,000 cubic yard mining overburden (spoils) pile contains arsenic, chromium, copper, lead, selenium, and zinc. None of these piles are lined or covered. None has surface-water diversion structures. In 1995, a landline survey was completed on the tailings pile. A PRP search was completed in FY 1996. PRP negotiations were also begun in FY 1997 and are ongoing.

FY 2000 WORK: PRP negotiations are ongoing. The State, EPA and the FS agreed to split the site into two operable units to facilitate investigations: Operable unit #1 (surface) and Operable unit #2 (subsurface). A Remedial Investigation was initiated on Operable unit #2.

FACILITY: **St. Patrick/Sunset Mines/Pena Blanca, Coronado National Forest Tucson, Arizona**

STATUS: Docket. Non-NPL**.**

NARRATIVE: The St. Patrick and Sunset Mines are located in Pena Blanca Canyon, which drains into the Pena Blanca Lake and Recreation Area located 1.5 miles downstream of the mines. In 1995, the Arizona Department of Environmental Quality and the Arizona Department of Game and Fish conducted tests that revealed mercury contamination in fish and in sediment in the lake. There is both an immediate and potential risk to humans of exposure to mercury- and/or lead-contaminated fish. In 1996, a PRP search and PA were completed. The Forest personnel are working

with Arizona Game and Fish to address the potential source of contamination.

The investigation was conducted at this site in FY 1997. PRP negotiations began in FY 1997. A Time Critical Removal Action was completed at the Pena Blanca site to remove mercury contamination in 1999.

FY 2000 WORK: Monitoring is ongoing.

FACILITY: **Rattler/Duncan Mill Site, Tonto National Forest**
Payson, Arizona

STATUS: Docket. Non-NPL.

NARRATIVE: The Rattler Mill site is located approximately 20 miles south of Payson within a historical mercury mining district. The Mill site was periodically operated from approximately 1953 to 1972. It is currently inactive and consists of crushing equipment, flotation systems, a furnace with dryers, a boiler, thickener tanks, diesel tanks, mixing tanks, a laboratory, a powder magazine, an unlined tailings impoundment, ore reserve piles, mercury processing equipment, water wells, landfills, and residential facilities. Total facilities occupy approximately 6 acres. Soil samples have shown elevated levels of mercury and lead when compared with background samples. An EE/CA was begun in 1998.

The State of Arizona and PRP negotiated for voluntary compliance based on corrective actions as indicated by the State in February 1993. A Cease and Desist Order (Docket No. D-45-93) was issued by the State to the Rattler Mill site in August 1993 due to violations of the provisions of the Arizona Revised Statutes. There has been no further action taken by the State. In 1996, a Removal Site Characterization/PRP Search was initiated and was completed in 1997. The site was fenced and the well was secured in 1999.

FY 2000 WORK: The groundwater investigation was initiated and will be completed in FY 2001.

FACILITY: **Richey Millsite, Tonto National Forest**
Payson, Arizona

STATUS: Docket. Non-NPL.

NARRATIVE: The Richey Mill site is an inactive cyanide heap-leaching operation. Milling operations were active for a short period in the mid- to late 1980's.

Cyanide heap leaching was conducted in the early 1980's. Pads and ponds associated with the cyanide operation occupy approximately 2 acres. A portion of the Mill site was utilized for equipment repair; stained soils are present throughout this area

The Preliminary Assessment was completed and additional mercury sampling was conducted at the site in 1997. A Risk Assessment and a PRP search were initiated in 1999.

FY 2000 WORK: The Risk Assessment is on going and will be completed in FY 2001. The draft PRP search is being reviewed. Groundwater investigation was initiated.

FACILITY: **Sabino Canyon Shooting Range, (Tucson Rod & Gun Club), Coronado National Forest, Tucson, Arizona**

STATUS: Docket. Non-NPL.

NARRATIVE: The Tucson Rod and Gun Club operated this site for more than 50 years. The target range is located within the Sabino Canyon Recreation Area, which receives more than 1.2 million visitors annually. There are six rifle/pistol ranges and one shotgun range for clay pigeons. The range is approximately 100 feet from the primary administrative access road to the canyon and approximately 500 feet from the main public access road and trail. Lead and other hazardous substances, primarily from the shotgun range, are being transported over the ground surface and into the washes via surface runoff. The spent lead shot and bullets have been deposited in the sandy washes to a depth of approximately eight inches and are moving down the wash. This site has been closed for a number of years because of safety concerns regarding bullets leaving the permit area.

The Removal SI and the EE/CA were completed and made available for public comment and review in 1999.

FY 2000 WORK: The Technical Response to Comments was completed for the EE/CA. An Action Memorandum, documenting the selected alternative and cleanup standard, was completed. A non-time critical removal is planned for FY 2001.

FACILITY: **Patagonia Mines, Coronado National Forest Patagonia, Arizona**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site encompasses four mines: Alum Gulch Mines (Panama Mine and World's Fair Mine), Four Metals Mine, and Ventura Mine. All four mines are upstream of the town of Patagonia, Arizona, which has a population of approximately 5,000. The contaminants of concern are copper, zinc, cadmium, cobalt, and manganese. The pH levels range from 1.6 to 2.6. There are also possible explosives and toxic chemicals located at the mine sites. Site Characterization was completed in 1996. An interagency agreement with the US Geological Survey (USGS) for the production of the Preliminary Assessment was initiated in 1998 and the USGS commenced the sampling and analysis for the PA/SI in 1998.

FY 2000 WORK: The PA/SI will be completed in FY 2001.

FACILITY: **Jordan Road Shooting Range, Coconino National Forest**
Sedona, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Jordan Road Shooting Range is located on approximately 5 acres within the Mormon Canyon Drainage. The site is located near Sedona, Arizona, approximately 0.5 mile north of Park Ridge Drive on the Brins Mesa trailhead. The site has been used as a target range since the late 1940's or early 1950's and has been permitted to several different groups. The primary use of the range is trap and skeet shooting. In the past, the range was used for all types of firearms, including pistols, big-game rifles, and shotguns. The contaminant of concern is lead. The range lies on both sides of Mormon Creek and there are lead shot and bullets and skeet targets fragments deposited within the normal dry creek bed as well as on both sides. A Removal Site Investigation was completed in FY 1996. The EE/CA was completed in 1997.

FY 2000 WORK: The Community Relations Plan was completed. The EE/CA was made available for public comment. PRP negotiations are ongoing.

FACILITY: **Shuree Ponds Diesel Spill; Carson National Forest**
Taos, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site is an Administrative Site acquired through a donation from Exxon. Diesel leaks and spills resulting from an old generator that provided power to the site. Leaks and spills occurred over a number of years (40+) originating with previous owner. Pennzoil deeded the site to the U.S. Government in 1982 as part of 100,000 Valle Vidal unit. Soils

and shallow groundwater have been contaminated with petroleum products; soils up to 18,000 ppm TPH and groundwater up to 190 ppb naphthalene, both exceeding State standards. Significant threat to adjacent surface waters. Preliminary site assessment completed in 1996 including drilling three monitoring wells.

In 1997, soil was excavated and placed in two separate bioremediation pads. Additional diesel contamination of both soil and groundwater still remains at the site, and one off-site bioremediation pad located at a shale borrow-pit approximately two and one-half miles from the site. The pads have been mixed using heavy equipment in order to advance the natural attenuation process. Monitoring began in 1998 and is scheduled to continue for three years.

FY 2000 WORK: Monitoring is ongoing. The site was tilled and sampled. Additional tilling and sampling will occur in FY 2001.

FACILITY: **Gobernador Administrative Site; Carson National Forest; Taos, New Mexico**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Gobernador Ranger Station was once the Jicarilla District Office and the residential compound. Several areas had potential hazardous waste, primarily the ground outside of the warehouse was used as an oil sump over the years, and a landfill above the horse pasture was used from 1970-78 for disposal of solid wastes. The closest resident is over 2 miles away. The landfill could potentially affect the groundwater. In 1999, Congress considered the conveyance of the Jicarilla Administrative site to the San Juan College.

The Removal Preliminary Assessment and the Phase I Assessment were completed in 1999.

FY 2000 WORK: Additional characterization was completed and the removal action will be completed in FY 2001.

FACILITY: **Red River Watersheds: Bitter Creek, Placer Creek, Pioneer Creek, and Hot N' Tot Drainage; Carson National Forest; Questa, New Mexico**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: In 1998, the National Park Service completed an Abandoned Mine Inventory for the Carson National Forest. As a result of that inventory, several mines were identified that had the potential for hazardous substance releases in four sub watersheds that terminate in the Red River, a major tributary of the Upper Rio Grande. The Placer and Pioneer Creek Watersheds are littered with abandoned gold mines. In 1998, the Removal Preliminary Assessment was initiated. In 1999, the review of the Draft Removal Preliminary Assessment (RPA) was initiated. The RPA recommended that the site be split into two operable units.

FY 2000 WORK: The watershed site was split into sub-watershed sites: (1) Bitter Creek, Placer, Hansen, Pioneer, Mallette, and (2) Red River Headwaters. A PA/SI was initiated at these sites.

FACILITY: **Turkey Creek Watershed; Prescott National Forest**
Prescott, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Turkey Creek sites are easily accessible to the public for recreational use and prospecting/mining. It is located approximately 2 miles east of Cleator and is easily reached by automobile via Crown King Road. All of the tailings piles are located on, or in, drainages that are tributaries to the Agua Fria River. The watershed includes several grazing allotments, and population centers at Black Canyon City and the town of New River, north of the city of Phoenix.

At all of the sites, direct ingestion and inhalation of hazardous materials by humans, cattle and wildlife is possible at the tailings piles and immediately downstream from the piles.

Because the sediment in the tailings is very fine-grained, it is easily mobilized by wind. Cross-bedding of tailings sand and clay indicates ongoing sorting of the sediment by wind. The prevailing wind direction in the area is from the south, blowing the fines towards populated private land to the north and to State Highway 69, and also (in the case of the Golden Turkey tailings pile) into the adjacent Turkey Creek drainage.

A Preliminary Assessment for the Golden Belt Mine was done in 1991. An expanded Removal Preliminary Assessment (RPA) to address the entire watershed was initiated in 1998 and was completed in 1999.

FY 2000 WORK: The PRP search was completed. Air monitoring is under consideration for the site.

FACILITY: **Promontory Butte Mine Site; Tonto National Forest**
Phoenix, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Promontory Butte Uranium Mine or Claims is located on the Payson Ranger District of the Tonto National Forest. The site is located in heavily timbered Ponderosa Pine one mile north of State Highway 260 and 17 miles east of Payson, Arizona. A boy's camp is located at this junction, immediately downstream from the mine. The area receives 20-25 inches of rain per year. The first claims for the site were filed in 1955. The pit was first opened in 1968-1969. The ore body in the area of the pit was determined to be small but rich. More ore was exposed in the late 1970's. No reclamation has been done to date and the ore is still exposed and has been tested by EPA to be at levels of concern. The cut face of the north side of the pit has uranium exposed in a 5-6 foot wide band with both black and the more weathered yellow ore. The uranium ore is readily observed in the piles around the site. The area covers over ten acres. The Preliminary Assessment was completed in 1999.

FY 2000 WORK: The PRP search was completed.

FACILITY: **Black Goose Mine Site; Cibola National Forest**
Magdalena, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Black Goose Mine and Mill Site (Site) is an inactive manganese mine located on the Magdalena Ranger District, Cibola National Forest. Forest Service records indicate that a CERCLA release may exists at the Site. It is located in T. 4N., R.4W., Section 34, in Socorro County, New Mexico. The Site is on the South Baldy USGS quad, and has an elevation of 6,800 feet, in foothill terrain, at an average slope of 11 to 35 degrees. The mill has been dismantled, only foundations remain. There are mill tailings present on site, and there is a quarry with a 10 feet high wall. The site drains into Hardy Canyon, which flows into Milligan Gulch, which ultimately flows into the Rio Grande at Elephant Butte Reservoir. The threat to human health and the environment is from hazardous substances contained in 19 containers of extracted ore currently located at the Site. The containers contain detectable concentrations of metals and cyanide. The highly deteriorated condition of the containers resulted in the release of a manganese compound to the environment. The Removal Preliminary Assessment was initiated in 1999.

FY 2000 WORK: The RPA was completed. The PRP search was initiated.

FACILITY: **Esperanza Mine Site; Carson National Forest**
Taos County, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Esperanza Mine is an inactive mine located on the Questa Ranger District of the Carson National Forest. The site is at an elevation of 9,280 feet, approximately 3.5 air miles northeast of the town of Questa, in Taos County, NM. There is one open adit, two partially collapsed adits and one cut/open pit at the site. A jeep road accesses the site, and there are residences outlying Questa within a mile from the site. Evidence at the site suggests campers and picnickers frequent the site. The mine portals are unstable or collapsed. There is potential for contamination from the site to impact area drinking water wells. There are drinking water wells within a 4-mile radius of the site, including water supply wells for the town of Questa. It is not known whether there are any surface water intakes downstream of the site. Samples taken of the waters draining from the adits indicate a pH of 3.4. There are three large mine waste dumps and several smaller dumps on site. The dumps contain sulfides with large amounts of pyrite. Water draining from the adits seeps through some smaller pyritic dumps, discoloring soils downstream. These form a seep approximately 50 feet downstream of the site which exhibits orange staining and possibly flows into Peñasquito Canyon during precipitation events. There is indication of stressed vegetation on site. The Removal Preliminary Assessment was initiated in 1999.

FY 2000 WORK: The draft RPA was reviewed by the Forest Service and is scheduled for completion in FY 2001. The PRP search report was initiated.

FACILITY: **Double Jerry Mine Site; Cibola National Forest**
Grants, New Mexico

STATUS: Non-Docket. Non-NPL

NARRATIVE: The Double Jerry Mine Site (Site) is an old uranium mine located on the Mt. Taylor Ranger District of the Cibola National Forest. It is in T.12N, R.9W, Section 34, in McKinley County, New Mexico, on the USGS Dos Lomas Quad. The Site is in canyon terrain with slopes up to 10 degrees. The Site is at an elevation of 6,980 feet and can be accessed via a jeep road off State Highway 605, approximately 10 miles NE of Milan, New Mexico. On-site features include a powder magazine, wooden loading structures, a fuel tank, a collapsed incline shaft, a waste dump, mining equipment and trash, and a water well. The Site drains into San Mateo Creek via an un-named drainage. The Removal Preliminary Assessment was initiated in 1999.

FY 2000 WORK: The draft RPA was reviewed is scheduled for completion in FY 2001. The PRP search report was initiated.

FACILITY: **Silver Creek Mine/Watershed Site; Gila National Forest Mogollon, New Mexico**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Mogollon Mining District was very active from 1860 to WWII. There has been minor activity since then. This mining district covers approximately 1200-1500 acres of once active gold and silver mines. The entire area is drained by Silver Creek. Some of the mine waste piles have eroded downhill to Silver Creek. Silver Creek is the source of water for the town of Mogollon which has a population of approximately 50 people. There are many open shafts and adits presenting a safety and physical hazard to the public. Some sites are within a mile of dwellings, roads or recreation areas. There is potential hazardous material at some sites: drums, barrels, trash and old mill equipment, and vats. The Removal Preliminary Assessment was initiated in 1999.

FY 2000 WORK: The draft RPA was reviewed and will be completed in FY 2001.

FACILITY: **Mazatzal Mine/Watershed Site; Tonto National Forest Phoenix, Arizona**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Mazatzal Mountains Mercury District is located within both the Mesa and Tonto Basin Ranger Districts of the Tonto National Forest approximately 60 miles northeast of the city of Phoenix and within Maricopa and Gila Counties. The Mercury District extends across the central portion of the Mazatzal Mountain Range covering an area of approximately 30 square miles. Mercury was first discovered in the Mazatzal Mountains in 1911 with production occurring throughout the District during the period of 1925 to 1965. The six major mines in the District are Pine Mountain, Sunflower (or National), Mercuria, Rattler, Rattlesnake and Ord. Additional small-scale operations such as at Cane Springs and Gold Creek were also developed. Two watersheds may be affected by these historical operations, Sycamore Creek watershed to the west, flowing southward to the Verde River, and Slate Creek watershed to the east, flowing to Tonto Creek then to Roosevelt Lake. Both the Verde River and Roosevelt Lake are water supply sources for the metropolitan

area of Phoenix, a population center of over 3 million. The Removal Preliminary Assessment was initiated in 1999.

FY 2000 WORK: The draft RPA was reviewed and is scheduled for completion in FY 2001.

FACILITY: **Bearup Mine Site; Tonto National Forest**
Phoenix, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Tonto National Forest carried out an impoundment procedure on the Bearup Mine Site (otherwise known as the Cramm Mountain Claims) in 1999. The OSC conducted a survey for hazardous materials as part of the impoundment procedures. Findings from the survey led to a Time Critical Removal for hazardous materials poorly stored throughout the site. Explosives, flammables, corrosives, and cyanide were some of the hazardous materials removed from the site. The State Department of Public Safety Bomb team assisted with the removal of unstable explosives.

There was a cyanide heap leach operation and a leaking diesel generator tank located immediately above a well in a small drainage. The remaining materials left on site, such as trailers, rusty equipment, etc., will be removed in a salvage sale. In 1999, a Time Critical Removal Action was conducted to clean up the site of the hazardous materials stored throughout the site.

FY 2000 WORK: The PA/SI report was initiated.

FACILITY: **Williams Landfill Site; Kaibab National Forest**
Williams, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The City of Williams operated this site since 1918. It was a garbage-dump site and was closed in 1973. A cover was never permanently established on the majority of the landfill, portions of cover that did exist have been disturbed and dumping of garbage has intermittently occurred at the site since closure in 1973. The landfill and debris covers approximately 37 acres. In the southern portions of the landfill, refuse ranges from surface scatter to a depth of three feet. The northern two thirds of the landfill has refuse that ranges from three feet to an unknown depth because of lack of records of pre-existing topography. Cataract Creek is the northern border of the landfill; there is refuse in the creek channel, and on the south side of

the creek bank is an assortment of exposed garbage. The elevation difference from bottom of creek channel to the top of the bank of garbage is 30 feet. The north side of the creek is a rock bluff that is about the same height. Since the original topography is not known it is difficult to determine the total volume or depth of refuse on the site. A Removal Preliminary Assessment was initiated in 1999.

FY 2000 WORK: The draft RPA was reviewed by the FS and is scheduled for completion in FY 2001.

FACILITY: **Rosedale Mine Site, CibolaNational Forest**
Magdalena, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Rosedale Mine is an inactive gold-processing site and mill located on the Magdalena Ranger District. This site is 23 miles from the town of Magdalena, NM, population of 1500. There is a 60,000 cubic yards mound of tailings. There has been no production or development work since 1937.

FY 2000 WORK: The Site Investigation was initiated and is scheduled for completion in FY 2001. A PRP search was initiated.

FACILITY: **Little German Mine Site;**
Silver City, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The site consists of one patented mining claim of about 20 acres and several unpatented claims. Development at the mine consisted of several adits, one shallow shaft, and two old wooden buildings. The workings are abandoned and generally inaccessible. A small waste rock pile, located in the watercourse, is estimated to contain about three to five thousand cubic yards of waste. The ore was reported to consist of mixed primary metal sulfides (galena, sphalerite, and chalcopyrite) and was worked sporadically prior to the 1900's and again in the late 1930's and early 1940's. New Mexico Department of Environment, Non-Point Staff of the Surface Water Quality Bureau, noted on a visit in 1998 pyrite and galena on the waste rock pile.

The German (or Hard Pan) Mine is located about 18 miles west southwest of Silver City in the Burro Mountains.

FY 2000 WORK: The PA/SI was initiated and is scheduled for completion in FY 2001.

FACILITY: **Jones (Macho) Mine Site,**
Santa Fe, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Jones Hill and Angelo Mine sites which are located along the Macho Canyon Creek on the Pecos Ranger District in the Santa Fe National Forest. Macho Canyon Creek is a tributary of the Upper Pecos River. Heavy metal contamination and acid mine drainage are occurring at the mines. The village of Pecos, with a population of approximately one thousand, and the State fish hatchery, are downstream along the Pecos River about ten miles away from where the Macho Canyon enters the Pecos Canyon.

FY 2000 WORK: The PA/SI was initiated and is scheduled for completion in FY 2001.

FOREST SERVICE
REGION FOUR

FACILITY: **American Fork Canyon, Uinta National Forest**
Utah County, Utah

STATUS: Docket. Non-NPL. (Listed on the February 1993, docket). A PA was completed and sent to the EPA in 1994. Selected sites have undergone a PRP Search.

NARRATIVE: As originally submitted to EPA, this site consisted of three mines: Mary Ellen Gulch Mines (Yankee Mines), Lower Bog Mine, and Pacific Mine. However, there are other Historic mine sites that may be contributing significant levels of contaminants to the environment. The remaining sites that were investigated in 2000 include: the mill site at Dutchman Flat; the smelter at Forest City; 2 ½ miles of road surfaced with mine waste rock; the Bog Mine (Upper) and various other waste rock sites in American Fork Canyon (AFC) on National Forest System (NFS) lands.

Cadmium, copper, lead, iron, zinc and other heavy metals are present in the in-situ rock formations and the waste rock and tailings piles at the mine sites. Leaching of these metals and deposition of the eroded spoils has led to water-quality problems associated with the mines' tailings dumps, spoil piles, and discharge from closed adits.

During mine closure operations being conducted by Utah Division of Oil, Gas, and Mining in AFC, they observed conditions at the Lower Bog, Pacific, and Yankee Mines associated with discharges from the adits. They obtained data collected by the Forest Service at these sites and submitted it to EPA in 1992. That submittal led to the listing on CERCLIS, but the site did not warrant inclusion on EPA's National Priority List. The PA was started in 1993 and, after delays resulting from a heavy fire season, was completed and sent to the EPA in November 1994. Land surveys showed that the Lower and Upper Bog Mines and portions of the tailings at the Pacific Mine are located on NFS lands. Water Quality sampling and testing in 1988, 1992, 1998, and 1999 have consistently shown contaminants in stretches of the North Fork of American Fork River exceed Utah water quality standards for this Class 3A Cold Water Fishery. Fish Tissue samples collected from 20 fish at 5 separate sites in the North Fork revealed 9 of those fish had elevated levels of lead, arsenic, or cadmium.

No major work was done on this site in 1996. Plans for 1997 included completion of a PRP search for the Pacific and Lower Bog Mines and

discussions with the PRPs concerning the need to complete removal actions on these sites. The PRP search was completed in1999.

In FY 1999, Pacific Mine was determined to be the worst single source of hazardous substances but the other sites are degrading water quality as well. The Forest Service researched the PRPs at six locations in AFC in 1999. CERCLA 104(e) letters were sent to the known PRPs at Pacific Mine and Yankee Mines. Most responses were received in a timely manner. It appears there may not be any viable PRPs associated with the Lower or Upper Bog Mines.

FY 2000 WORK: Because of the complexity of this project and the time required, a full time On-Scene Coordinator was assigned to the project in late October. With this commitment to this project, the estimated completion date for a removal action at the Pacific Mine Site is FY 2002. Major sampling and testing work was done in FY 2000 to pinpoint the sources of contamination in the canyon. Dutchman Flat, another problem area in the canyon, was targeted for a PRP Search report that was contracted.

FACILITY: **Apex Mine, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-Docket. Non-NPL. PA, PRP Search Report completed.

NARRATIVE: The Apex Mine is an abandoned uranium mine in the Reese River mining district outside Austin, Nevada. Uranium was first discovered in 1953. The mine produced several thousand tons of uranium ore with a value of approx. $100,000. Later development occurred in the late-1970s. The Site includes open, hazardous shafts, collapsed structures, and waste ore piles.

A Forest Service contractor completed a Health and Safety Survey on the Site in 1998. This included a survey of the Apex underground mine workings. The survey consisted of recording ground conditions, water, radon detection, equipment, explosives, and mapping of workings. A radiological gamma survey of the dumps was also conducted in August of 1998.

A Preliminary Assessment was conducted during 1999. A PRP report was also started.

FY 2000 WORK: A Cultural Resource report was contracted prior to planning a removal action. An EE/CA is planned for FY 2001. The PRP report was completed and no viable PRPs were identified.

FACILITY: **Banner Mine, Boise National Forest**
Boise, Idaho

STATUS: Non- Docket. Non-NPL.

NARRATIVE In 1998 an investigation was initiated to determine the effects of effluent exiting the mine adit. The Banner Mine was located in 1864. The first work began with construction of a mill in 1876. Mine development continued, as did mining until 1917. Between 1917 and 1933 various individuals and companies were involved with exploration and studies. The property changed ownership numerous times and a land survey in 1997, identified facilities thought to be on private land were in fact occupying National Forest System Lands. Among the facilities is a partially collapsed mine adit, which drains effluent into Banner Creek. Banner Creek is a tributary to Pikes Fork Creek, a tributary to Crooked River and the North Fork Boise River. The area is also the home to bull trout (*Salvelinus confluentus*), a threatened and endangered species. In 1998, an investigation was initiated to determine the effects to the fish of effluent exiting the mine adit. In FY 1999 a PRP Search was initiated. Initial water sampling indicates the effluent exhibits high levels of arsenic.

FY 2000 WORK: A PRP Search report was completed. CERCLA 104(e) letters were sent at the end of FY 2000 with replies expected in FY 2001. The On-Scene Coordinator is working on the PA.

FACILITY: **Bassett Gulch Mill Site, Sawtooth National Forest**
Ketchum, Idaho

STATUS: Docket. Non-NPL but scored by EPA above 28.5. (Listed on the June 27, 1997, docket). A CERCLA Site Investigation was completed in 1999.

NARRATIVE: In 1994, the Idaho Geological Survey completed a survey of the Bassett Gulch Mill site as part of a Forest Service Region wide inventory effort to identify abandoned and inactive mine sites. The survey indicated that this site had potentially serious environmental problems and suspected releases of hazardous substances. Initial sampling in 1996, by the Forest Service, showed increased levels of metals in the tailing impoundment.

An On-Scene Coordinator was assigned to the project and an Administrative Record was initiated. Two sampling events indicated that the tailings on the site showed high levels of lead. The PRPs were notified and invited to participate in addressing the site.

In 1996, an operator was interested in restarting the mill operation and processing for gold. They submitted a Plan of Operation, which was

reviewed by the Forest Service and sent back to the proponent. The request was withdrawn in 1998. A PRP was interested in conducting a Site Investigation in 1997, but declined during the AOC negotiations. A Contractor working for the Forest Service in December of 1997, drilled wells on site at four locations to determine groundwater depth. No groundwater was found on three of the four drilled. Groundwater was found near Warm Springs Creek. No water quality samples were taken. A contractor for the Forest Service performed a CERCLA Site Investigation in September of 1999. The investigation concluded that the site would score high enough for consideration to the NPL. It also said that further assessments under CERCLA might be warranted. Level II contamination was found in wetlands and Warm Spring Creek. However, no increased levels of metals were found in the drinking water of residences near the site. A PA/SI was started.

FY 2000 WORK: A PA/SI was submitted to the EPA. Negotiations for the PRPs to perform an EE/CA were started.

FACILITY: **Blackbird Mine, Salmon National Forest**
Salmon, Idaho

STATUS: Docket. (Listed on the December 15, 1989, docket). Originally proposed as a NPL site. A PA/SI was sent to the EPA. This site was nominated in the Federal Register for inclusion on the NPL in February 1993. The proposed listing has not been finalized; however, it is expected that the site will not be listed on the NPL.

NARRATIVE: A PA/SI was completed and submitted to the EPA for hazard ranking. The Forest Service, the National Oceanic and Atmospheric Administration, and the State of Idaho are the natural resource trustees at the site. The Federal Government filed a Natural Resource Damage claim against the PRPs in 1993. The State of Idaho natural resource damage claim filed against the PRPs in the 1980's was combined with the Federal suit. EPA issued a CERCLA Section 106 Order against the PRPs in 1993, citing an imminent release of hazardous tailings into the West Fork of Blackbird Creek from the failure of the tailings dam sitting in the creek. The undersized creek-diversion culvert going under the tailings has been replaced with a concrete half-round open culvert over the top of the tailings. It was bedded in clay with a geotextile membrane cover and rock as a final layer. The new Federal judge overseeing the case ruled in October 1994 that the Forest Service was not liable for damages at the site. The natural resource damage suit was settled out of court in early 1995. The PRPs agreed to certain natural resource restoration actions, with the time frames for implementation, and settled with the Trustees for 90 percent of their costs to prepare the resource damage studies. A

Memorandum of Understanding was implemented by the Forest Service and the EPA to establish responsibilities at the site.

The EPA has taken the administrative lead in overseeing removal and remedial actions at the site. Early cleanup actions were initiated in 1995 with completion in 1996. Early cleanup actions included cleaning of water ditches, storage of contaminated mine runoff and subsequent treatment, capping of hazardous mine wastes in-place, moving other hazardous mine wastes to a repository, and rehabilitating the stream channel. A Remedial Investigation/Feasibility Study (RI/FS) Plan is anticipated, once the early actions are complete, to address any remaining site cleanup concerns. The EPA is doing a risk analysis.

The PRPs are implementing various phases of the Natural Resource Damage Assessment Settlement Plan, including land purchases and easements for cattle exclusion from the critical stream habitats and design of fish traps and acclimation ponds. This work should be completed in the next few years, although additional work may be necessary if water-quality levels are not achieved by 2002.

In 1996, Implementation of the Biological Restoration and Compensation plan continued. This includes the livestock exclusion element as well as the site assessment and alternatives analysis for the channel realignment. A review was done of the Panther Creek fish trap/acclimation pond design and cost estimate was developed.

Early actions performed by the PRPs, also called the Blackbird Mine Site Group (BMSG), include the following designs/reports: Waste Rock Removal in the Bucktail Creek Basin; Hawkeye Gulch Groundwater Interceptor and Sediment Trap; 7100 Dam; Diversion Ditch Effectiveness Evaluation; Focused Remedial Investigation and Feasibility Study Work Plan Addendum; Sulfate Behavior in Blackbird Creek; 6850 Adit Extension Work Plan; Blackbird Mine Ecological Risk Assessment; 90% Meadow Creek and Blackbird Creek Waste Rock Cap Design; Upper Bucktail Creek Hydrology Data Summary; 7000 Dam Alternatives Analysis; Operation and Maintenance Plan for the West Fork Creek Tailings Facility; and Wastewater Treatment Plant Design.

Early action construction activities include: construction of various ditches for the effectiveness studies; construction of diversion and sediment control ditches; completion and operation of the two sediment dams in Bucktail Creek; early phases of construction for the 7100 dam; portions of the waste-rock capping effort; phase one of the reconstruction of the 6850 adit; completion of the Upper Bucktail West waste dump removal; early phase of the Bucktail Creek debris removal effort; completion of the sediment dam at the mouth of the Blacktail Pit; and

completion of the underdrain system in the Blacktail Pit where the waste is currently being deposited.

For the RI/FS portion of the project, various sampling events were conducted. The Remedial Investigation and Data Summary Report was prepared. Discussions are continuing on the water effects ratio for copper. The BMSG did cobalt toxicity testing and the results are under discussion.

In 1997, time was spent on the construction of two dams. One called the 7000-foot Dam located on the Bucktail Creek upper drainage, on National Forest System (NFS) lands and another called the 7100-foot Dam, located on upper Meadow Creek on private property. The 7000-foot Dam collects all contaminated waters from drainages above the dam, which include some NFS land and private property. A water pump-back system collects all of the water, which leaks under and through the dam. The water is collected at the pump-back system, which was built in 1998, located below the dam. The pump-back system pumps the water uphill to an adit located near the dam, which is used to carry the water through the mountain and connects with another adit coming from the south side of the mountain. The water is then passed down to the water treatment plant. The 7100-foot Dam collects all of the contaminated water above this elevation and stores it in the dam. It then flows out into a pipe, which runs down Meadow Creek into the Water Treatment Plant. All contaminated waste rock was removed from the NFS lands, located on the West Lobe, and hauled to the Bucktail pit.

In 1998, many projects were initiated. The 7,000-foot Dam in Bucktail Creek drainage and the 7,100-foot Dam in Meadow Creek drainage were completed. The pump-back system in Bucktail Creek (listed above) and the enlargement of the water treatment plant were completed. All "Clean Water Ditches" which route all of the un-contaminated water around the 7,100-foot Dam and passes it to the Meadow Creek concrete flume were completed. The clay and rock capping of Meadow Creek was constructed to collect all of the clean water from snow melt and rain, which then drains into the concrete flume, which empties into Blackbird Creek was completed. The removal of arsenic contaminated soils on private property located at the Panther Creek Inn, at the junction of Panther Creek and Blackbird Creeks. The contaminated soil was hauled up to the West Fork of Blackbird Creek tailings area for storage. Clean topsoil was hauled back into the Panther Creek Inn area so rehabilitation could occur. The private property was then seeded in late fall. The construction of two small temporary sediment dams located on Blackbird Creek, just above the junction of Panther Creek, was completed. This project was designed to collect any sediment from Blackbird Creek during the 1999 over-bank removal of contaminated soil. Another larger sediment dam was built on Blackbird Creek at the intersection of the West Fork of Blackbird Creek.

In the fall, hydro seeding occurred on part of the NFS lands located on the West Lobe and part of the 7000 Dam area.

In 1999, EPA installed "Health Advisory- Arsenic Present in Soils" signs along Panther Creek at selected sites, which showed above health recommended amounts of arsenic in the soil. Soil sampling occurred throughout the year, to identify the amounts of arsenic in the soil at selected sites. Over-bank contaminated soil material was removed from selected sites along Blackbird Creek and Panther Creek. These sites included NFS and private property lands. This material was hauled to the West Fork of Blackbird Creek Waste tailings area. The clean backfill material taken to these sites came from Forest Service approved sites and the topsoil from the Cobalt Townsite. One of the Forest Service sites was designed as an enlargement area for wildlife, since the arsenic was removed down to the water table. All areas were seeded in the fall. Riparian stream bank areas were planted with willows and alders from adjacent areas. This on-going clean up of arsenic contaminated soils along Panther Creek and possibly Blackbird Creek will continue in the year 2000. Hydro seeding in the fall occurred on the following sites: West Lobe of NFS land; 7000 Dam area on Bucktail Creek; 7100 Dam area on Meadow Creek; main road from Meadow Creek to summit; Hawkeye Gulch; West Fork Blackbird Waste tailings and portions of Blackbird Creek where contaminated soil was removed. Approximately eight miles of livestock fencing was completed on private property along the Lemhi River and Big Springs Creek, located west of the town of Leadore. This was a mitigation measure to compensate for injuries to natural resources resulting from conditions at the Blackbird Mine. The BMSG has entered into a court-approved Consent Decree with the United States and the State of Idaho. A component of the Consent Decree is a Smolt Survival Plan that contains a livestock exclusion element. That element is intended to protect and improve riparian habitat of selected stream reaches on private lands by cooperating with the landowners to exclude cattle from the reaches, thereby, allowing recovery of the riparian habitat. This is one of the highest quality sites for salmonid spawning and rearing habitats. In year 2000, another proposed two miles of livestock exclusion, on critical salmonid spawning and rearing habitats, should be finalized. This is located on private property at Herd Creek, a tributary to the East Fork Salmon River. This site is a prime Chinook spawning area, but contains "channel instability" consisting of bank trampling, denuded vegetation and an inherent high-energy system. Water quality testing at Blackbird Mine, will be an on-going project in Panther Creek and Big Deer Creek, for copper and cobalt.

FY 2000 WORK: A Ditch Effectiveness Analysis was done in February, relating the need for more ditch capacity in comparison to storage behind the dams. April saw a report on the 7100 Dam Drawdown Test Results. In May, a draft

Road Operation and Maintenance Plan was released covering the Cobalt Townsite Area. May also saw the Final Draft Construction Report for the Early Removal Action – Phases I, II, III, IV, and V (Field Seasons 1995-1999). The larger reports of the year came in June with the Cobalt Townsite Overbank Removal Actions and Preliminary Design Information Report and the 1999 Remedial Investigation Data Summary Report and Sampling and Analysis Plan for 2000 Work. The Cobalt report covered the feasibility of capping wastes in the Cobalt area that were on private lands. The Panther Creek Overbank Removal Report was reviewed. This report outlines a plan for collecting more data before alternatives are decided upon for a removal. The Terrestrial Ecological Risk Assessment was released in September followed by a Revised Work Plan for the West Fork Tailings Impoundment.

The BMSG released a Sampling Plan to Evaluate the Need for Sediment Removal and Bank Stabilization as part of NRDA activities. Appendix C of the Consent Decree requires that the bank tailings in Blackbird Creek be addressed.

FACILITY: **Buckskin Mine, Humboldt National Forest**
Elko, Nevada

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A Preliminary Assessment/Sampling Inspection was submitted to the EPA. It has been reviewed and returned from EPA with a recommendation of No Further Response Action Planned. Removal complete.

NARRATIVE: The Buckskin National and McCormick Group mines (the Site) are located in northern Humboldt County, Nevada. The general physical location of the Site is on Buckskin Mountain in the North Fork of the Little Humboldt River drainage. The two mines are separated by approximately four-tenths of a mile. Unpatented mining claims were located on the Site; no private lands have been identified. The McCormick Group Mine, near the top of Buckskin Mountain, was in operation the first half of the 20th century, for an unknown period. Between 1922 and 1928, while prospecting for gold and silver, Chalmers McCormick located 18 unpatented claims covering a mercury "quicksilver" deposit. Mercury production totaled approximately 130 flasks. In 1932, mercury was recovered with a pan retort. A 64-foot rotary furnace was installed and produced 70 flasks of mercury before it was dismantled and removed from the property in 1941. Buckskin National Mine has a lengthier history. The Buckskin National mining claims were first located in l906 by W.J. Bell and G.B. Ward. The Buckskin National property was mined intermittently from 1906 to 1941.

Total production was about 24,000 ounces of gold and 300,000 ounces of silver based upon partial production records.

The Buckskin National Mine consists of extensive workings spread over 20 acres. The workings included a tailings pile and dam, waste rock dump, six adits, eroding structures, and abandoned process residuals. Between one and 53 gallons per minute of acidic, metal laden water flows from the Hatch adit. The adit discharge enters the tailings and flows out of the base of the tails. Dissolved metals present in both the adit discharge and tailings leachate flow directly into the North Fork of the Little Humboldt River. Sediment from tailings erosion also enters the river and is transported down the river.

In July of 1979, drums of wastes/chemicals were removed from the site by contractors of the Forest Service. In 1980, ASARCO, Inc., conducted some cleanup work at the Site. A diversion channel was excavated to divert water around the tailings and into the North Fork of the Little Humboldt River. A sediment dam was also constructed to prevent tailings from eroding into the river. Since then, the dam has been breached from storm events. In 1990, four cattle were reported to have died from ingestion of cyanide left at the Site. The bulk of the cyanide source was removed at that time, however approximately 120 gallons still remained. A CERCLA removal action was initiated on April 27, 1990, with a Removal Preliminary Assessment prepared by the Humboldt National Forest to review all available information on the sites. A Removal Site Inspection (SI) report was completed in July of 1991.

A Forest Service contractor, was retained in 1993 to write an EE/CA, which was completed in early 1995. The preferred alternatives selected were, in general, to remove tailings material from the flood plain, terrace, and cap the tailings, remove drums, reroute the Hatch adit discharge, and control surface run-on. For the McCormick Group Mine, the preferred alternative was to cap the retort soils surrounding the area. Additional work completed on the Site included development of a community relations plan, notification of potentially responsible parties and requests for their participation; requests for information, development of an Action Memorandum on the final decision; and significant public and other agency involvement efforts. Also an archaeological study was completed in 1993, pursuant to the National Historic Preservation Act.

A non-time-critical removal action was conducted on the Site in FY 1996. The tailings were regraded to allow for better drainage, pulled away from the creek, and covered with rock obtained on the Site. Barrels were removed. Drainage from an adit on the Site was rerouted around the tailings. The McCormick mercury retort was welded shut, and boulders were placed around it to minimize accidental human exposure.

Revegetation work was completed in 1997, along with some water quality monitoring.

Continued revegetation monitoring was conducted in FY 1998. A revegetation study was conducted including soil analysis and species recommendation for areas impacted by tails with unsuccessful revegetation.

FY 2000 WORK: Revegetation improvement plans were put together to support a request for additional funds in FY 2003. There is a concern that the adit drainage is degrading water quality at the site, that there are still some tailings in the creek, and that the revegetation efforts are not as successful as they should be.

FACILITY: **Champ Mine, Caribou National Forest**
Soda Springs, Idaho

STATUS: Non-Docket, Non-NPL. PA, PRP Search complete.

NARRATIVE: The Champ Mine and its extension are located in upper Dry Valley, Caribou County, ID. There are potential selenium problems at this site. This is a phosphate mine.

FY 2000 WORK: The Forest Service contracted for a Preliminary Assessment Report and a Potentially Responsible Party Report. Both are scheduled for completion in early FY 2001.

FACILITY: **Cinnabar Mine, Payette National Forest**
McCall, Idaho

STATUS: Docket. Non-NPL. (Listed on the February 5, 1993, docket). The PA was completed and sent to the EPA in May 1993. The Forest Service completed a Removal Action in 1992. The EPA completed a second Removal Action in 1996 and 1998.

NARRATIVE: This site is an inactive mercury mine with documented releases of mercury, lead, zinc, and arsenic in large quantities from mine tailings piles. Although the site is primarily patented mining land, part of the tailings piles are on National Forest System (NFS) land. In late 1992, the tailings dam was breached and an emergency spillway was constructed to prevent a catastrophic release. This action was taken as a CERCLA Removal Action. Notification of known PRPs has been completed. In addition, other problems at the site include diesel-fuel spills from onsite

tanks in 1988. The EPA requested that the Forest Service perform a SI in 1993. However, because most of the site is privately owned, it was not appropriate for the Forest Service to conduct the SI. In August 1993, the EPA agreed to perform the SI with the Forest Service contributing a share of the cost. The EPA contractor finished the SI in September 1994.

In the summer of 1995, a PRP remediated a leaking above-ground storage tank. In 1995, CERCLA 104(e) letters were sent to the PRPs at the site. In November 1995, the EPA and the Forest Service agreed that further interagency coordination was required. A small tailings pile still remains on the public lands.

The EPA decided to conduct a time-critical removal action at the Cinnabar Mine in August 1996. Actions conducted at the site included removal of asbestos, containment and removal of polychlorinated biphenyls and mercury-contaminated soil and stream sediments, removal of miscellaneous laboratory and petroleum wastes and posting and securing the site. Work was done on the tailings and the stream channel was rehabilitated. The EPA is discussing further work at the site with the PRPs. The EPA conducted a time-critical removal action at the site in 1998. This removal is a follow up to the 1996 work, completing the site. Actions completed were to finish removal of contaminated soils, re-sloping and re-vegetating the waste piles.

FY 2000 WORK: Negotiations planned with the PRPs for late FY 2000. The PRPs sent a letter to the EPA expressing an interest in a settlement.

FACILITY: **Colorado Hill Mine Area, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-docket. Non-NPL.

NARRATIVE: The Site is located approximately five miles west of Markleeville, California, and 26.5 miles west of Minden, Nevada, on the Carson Ranger District, Toiyabe National Forest. The area includes numerous adits with flowing or standing acid rock drainage, sulfide waste rock piles, two acid seeps not directly associated with mining, and some collapsed structures and open pit mines.

The entire "Colorado Hill Area" was submitted to the Forest Service Washington Office as a proposed watershed restoration/remediation project under the Interdepartmental Abandoned Mine Lands Watershed Cleanup Initiative. This initiative includes partnerships with the States in which the projects lie. If a project is approved for funding, an intensive study of the watershed(s) will be initiated.

An aerial photography flight was flown in FY 1999 and site maps were under development.

FY 2000 WORK: The aerial photography was not completed in FY 2000 and was instead postponed until FY 2001. A Preliminary Assessment report was contracted late in the FY with a PRP report planned for contracting in early FY 2001.

FACILITY: **Comeback Mine Site, Boise National Forest**
Garden Valley, Idaho

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The site ownership is mixed Federal and private. The site is located on Grimes Creek, a tributary to Mores Creek and the Boise River. It is located on the Grimes Pass (Garden Valley SE) quadrangle, T8N, R5E, Section 25. The site consists of settling ponds, waste rock dumps, heap leach pad, tires, buckets, drums, AGSTs, boxes, rail, timbers, hopper, etc. Potassium Cyanide was used at the site and may still be present. The project is the site of a cyanide spill which the State and EPA previously reported. An EPA contractor detoxified the liquid in the ponds but did no further work. The tailings are being actively mobilized by wind, surface water and possibly ground water.

FY 2000 WORK: Discussions with EPA started on joint work on the site. A PA/SI is planned jointly with the EPA in FY 2001. The Forest Service initiated a PRP search scheduled for completion in FY 2001.

FACILITY: **Deadwood Mine Site, Boise National Forest**
Cascade, Idaho

STATUS: Non-Docket. Non-NPL although EPA has scored the site above 28.5. PA completed (by EPA). PRP Search complete.

NARRATIVE: In 1995, the Idaho Geological Survey completed a survey of the Deadwood Mine site as part of a Forest Service Region wide inventory effort to identify abandoned and inactive mine sites. The survey indicated the site had potentially serious environmental problems and a suspected release of hazardous substances. An On-Scene Coordinator was assigned to the project and an Administrative Record started. A site investigation in 1999 showed high levels of lead in the tailing pile. The EPA conducted a Preliminary Assessment in 1999 that concluded that an extensive site investigation is warranted. A PRP search report was performed in 1999.

FY 2000 WORK: EPA completed a PA and plans to do additional work in FY 2001. The Forest Service notification of PRPs is underway but not complete.

FACILITY: **Fury-Grantsville Mine, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-Docket. Non-NPL. PA completed. Removal completed.

NARRATIVE: The Fury-Grantsville Mine was an inactive silver and gold heap-leach mine threatening to release cyanide and heavy metals to the environment. Although the mine is located primarily on patented mining lands, 88,000 cubic yards of cyanide-contaminated ore, along with the process and solution ponds, are located on National Forest System lands. A letter notifying the Canadian PRP of the Forest Service's intent to initiate a response action under CERCLA was sent in June 1992. A contract was awarded for an EE/CA in August 1993. The scope of work was expanded to include identification of alternatives and a design of the Forest Service's preferred alternative. The EE/CA was finalized in 1995 along with the design of the preferred alternative.

In 1996, the heap leach pile was rinsed and cyanide levels were reduced to acceptable limits. A biological solution that aided in the degradation of the cyanide was used. A biological passive treatment system and a leach field were installed.

Additional work on the heap leach pile included regrading the heap and covering it with stockpiled topsoil and revegetation were done in FY 1997.

Groundwater and vegetation monitoring were completed in FY 1998.

FY 2000 WORK: The PRP search was completed. The Forest Service is planning on conducting more work next year on the heap leach pile to address erosion problems.

FACILITY: **Goldstone Mine, Salmon National Forest**
Salmon, Idaho

STATUS: Non-Docket. Non-NPL

NARRATIVE: The site is the location of a former gold mine covering about 8 acres. Features include two adits with discharge, 4 acres of tailings, an ore chute, 10-stamp mill, breached dam and over 1,000 cubic yards of waste rock. Mercury flasks have been found on site. There are elevated levels of

copper, lead, silver, mercury, barium, and chromium. Chronic levels of lead in fish tissue have been found on site. A PRP search and PA are completed.

FY 2000 WORK: The PRP Search was completed and CERCLA 104(E) letters sent out. Replies are expected in FY 2001.

FACILITY: **Grouse Creek Mine Site, Salmon-Challis National Forest Sunbeam, Idaho**

STATUS: Non-Docket. Non-NPL. Removal Action completed in 1999 by the PRP.

NARRATIVE: The Grouse Creek mine is an open-pit gold mine operation that was constructed in 1993, and includes an office and shop, storage buildings, fuel and electrical facilities, the mill, mine and a tailings impoundment. The mine recently became inactive. Crushed ore from the open pit was delivered to the mill, where it was processed using a cyanide leaching process. Tailings from the ore processing were placed in the tailing impoundment in slurry form, along with the excess process waters. Waste rock was placed in a waste rock stockpile, located on the northwest side of the tailing impoundment. The gold and silver mine operated until 1997, when mining operations were suspended because of unfavorable economic conditions.

The first documented off-site release from the tailings impoundment occurred in August 1995. A tailings pipeline failed, causing tailings from the mill to discharge under high pressure directly against the tailings pond liner. As a result the liner was compromised by the abrasive tails resulting in a discharge of cyanide bearing solution to the underdrains and into Jordan Creek, a tributary to the Salmon River. The release was reported to the appropriate agencies and the liner system was repaired. Following an order from EPA, the mine company constructed a treatment plant in 1996 to treat contaminated water. The treatment plant was upgraded in 1998.

In May through December 1997, Weak Acid Dissociable (WAD) cyanide was detected off-site, in stream, and down stream from the mine site. In May 1999 cyanide contamination was discovered in seeps adjacent to Jordan Creek, indicating the tailings impoundment was leaking in another location. Cyanide has been detected in both surface and groundwater monitoring stations downstream from the Site. In addition to cyanide, and sulfate, other contaminants including several heavy metals, such as arsenic, and copper have been detected.

Following reports of cyanide releases in 1999, the Idaho Department of Environmental Quality (IDEQ) issued a Notice of Violation to the mine

company, asserting violations of Idaho's water quality standards and their cyanidation permit. The PRP and IDEQ reached an agreement on a consent order. In FY 2000, the Forest Service and EPA negotiated and entered into an AOC with the PRP to perform a removal action.

The mine site is still under an approved Plan of Operations. The mine was placed in interim closure status in 1997. As per correspondence from the mine company in April 2000, the mine project changed to permanent closure status. The Forest Service is starting a process to evaluate the unfunded/underfunded closure/reclamation liability needing reclamation bond re-calculation.

In 1999, EPA and the Forest Service were actively involved in negotiating an AOC to de-water the tailings pond. The PRP performed a time critical removal action in 1999. The time critical action involved the construction of sumps to capture cyanide-bearing springs and seeps that enter Jordan Creek. The contaminated waters were pumped from the seeps to the tailings ponds. The action was completed in September 1999.

FY 2000 WORK: An AOC was signed with the PRP to dewater the pond. Cyanide has been found in the groundwater below the tailings pond. The PRP is pumping cyanide-tainted groundwater into the pond for treatment. They are also building a treatment plant to complete the dewatering operation. Review of the adequacy of the bond was started in 2000.

FACILITY: **Harmony Mine, Salmon National Forest**
Salmon, Idaho

STATUS: Non-Docket. Non-NPL. Awaiting completion of EPA funded PA.

NARRATIVE: The Forest Service completed a PRP search in 1999. Initial review indicates there may not be a viable PRP. EPA began a PA in 1999.

FY 2000 WORK: EPA has completed a PA. The Forest Service has sent CERCLA 104(e) letters to PRPs identified during the PRP search. A review of the responses to these letters and a final determination of whether there are any viable PRPs is scheduled for completion in 2001.

FACILITY: **King Edward Mine, Manti-Lasal National Forest**
San Juan County, Utah

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A PA submitted to the EPA in 1990 has not been scored. EE/CA is complete.

NARRATIVE: The site is a uranium mine with large quantities of waste rock, radon gas releases, off-site migration of radioactive materials, and water-quality problems from waste dumps resulting from the mining of uranium ore dating back to the early 1950's. A PA was completed and submitted to the EPA in 1990 and has not been scored; the site is not expected to be listed on the NPL. Sampling and testing, archeology, and endangered species reviews were started in fall 1995. Twenty holes were drilled, sampled, and analyzed. Water sampling was also conducted.

In FY 1996, work continued to organize the administrative record for the site and complete an EE/CA.

In FY 1997, an in-mine survey was completed. All known adits that are still accessible were mapped. The western portions are flooded, and were not mapped. The PRP report was completed.

In FY 1998, the EE/CA was completed.

PRP negotiations continued into FY 1999. Another potential PRP was identified late in the process.

FY 2000 WORK: The major PRP who planned to do the removal action at the site went bankrupt. Smaller PRPs may settle out for small sums. OGC has finished the PRP work and deemed that a Forest Service financed removal action could proceed. Funds were requested for a removal action in FY 2003. This is the last CERCLA site to be scheduled for clean-up in this watershed. A major watershed clean-up effort will otherwise be completed in FY 2001.

FACILITY: **Leviathan Mine, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-Docket. NPL. (Site was listed on May 11, 2000).

NARRATIVE: The entire Site covers approximately 700 acres and is located in Township 10N, Range 21E, Sections 15 and 22, Mount Diablo Meridian, in Alpine County, California, ten miles east of Markleeville and two miles north of the Monitor Pass Highway. The Site is predominantly owned by the State of California; however, National Forest System (NFS) lands surround the Site and approximately 20 acres of NFS land has been directly impacted. A Response Action has been initiated at the Site by the EPA, through an AOC with the PRPs, in coordination with the State of California, Lahontan Regional Water Quality Control Board.

Discovery of the mine came in 1863 by Comstock Lode miners and prospectors who apparently were seeking a source of chalcanthite for processing silver sulfide ore by the Patio process at Virginia City, Nevada. At that time, an adit was driven about 400 feet into silicified and mineralized rock in search for a concentration of chalcanthite. The mine originally was an underground mine until 1952 when Anaconda Minerals began surface mining of sulfur ore which was utilized for the processing of copper ore at their Yerington, Nevada, facility. Approximately 500,000 long tons of sulfur valued at $14.5 million have been produced from this mine. Nearly all the production came in the period between 1953 and 1962.

The Site currently consists of a large open pit, a main adit, five evaporation ponds, concrete drainage canals and sumps, several wood frame/sheet metal buildings, and an ore bin. Several, large waste/overburden piles also lie on the Site. Actual disturbed area is approximately 250 acres. At an elevation of 7,000 feet, the Site is drained by Leviathan and Aspen Creeks that are tributaries to the East Fork of the Carson River, a major western Nevada water supply source. Due to the exposure of the ore body, both underground and above ground, and disposal of the low-grade sulfur containing waste rock in the drainage, adverse impacts to downstream water quality have resulted. Surface runoff in contact with the exposed surface minerals (in the pit and waste rock material), as well as underground drainage, results in acidic water containing heavy metals, which enters the drainages. Also, contaminated seepage is occurring from springs at the site. The net result has been that Aspen and Leviathan Creeks, downstream from the Site, have become severely impacted. Considerable restoration work occurred at the Site in the early 1980s through a pollution abatement control project initiated by the Lahontan Regional Water Quality Control Board (LRWQCB).

The Forest Service serves in two capacities at the site. The first is as On Scene Coordinator for a CERCLA response action for the approximately 20 acres of impacted NFS land property. That action was mainly initiated for incidental use of the land by the PRP and the other agencies in the course of the work at the site. The second is to serve as a Natural Resource Trustee under a National Resource Damage Assessment case. The Forest Service is a member of the Leviathan Mine Council, with members including the Washoe Tribes of Nevada and California, the U.S. Fish and Wildlife Service, and the States of California and Nevada.

On April 15, 1998, the EPA, Region IX, signed an Administrative Order on Consent (Order) for a Removal Action with the PRP. The Order was for performance of a removal action and reimbursement of response costs incurred by the U.S. on the Site.

The Forest Service completed an Action Memo to initiate a CERCLA Non-Time Critical Removal Action on NFS land at the site on July 23, 1998.

In 1998, the LRWQCB and the Forest Service entered into a Participating Agreement for the Leviathan Mine Removal Actions to outline the Forest Service and State relations during actions at the site. A road use permit was also issued to the PRP for use of NFS land roads.

In 1998, a Memorandum of Understanding was signed between USDA DOI, Washoe Tribes of Nevada and California, and EPA for natural resource damage assessment work. The Leviathan Mine Council developed a Pre-Assessment Screen. A Confidentiality Agreement was signed between the Trustees and other members of the Trustee Council (States of Nevada and California, etc.).

Phase I Assessment sampling occurred throughout 1998 on biological and physical natural resources potentially impacted by the site, using both internal Council member agencies and outside contractors. The Participation and Funding Agreement was signed with the PRP.

In 1999, the EPA and the Forest Service entered into an MOU for any and all response actions taken at the site.

The Phase II NRDA sampling occurred throughout the year on biological and physical resources potentially impacted by the site, using both internal Council member agencies and outside contractors. The Forest Service funded the macro-invertebrate studies at the site.

FY 2000 WORK: Oversight continued of remedial actions occurring at the site. The State of California enhanced their passive treatment system and the PRP continued RI/FS studies with anticipation of developing a large active treatment system.

The NRDA Phase II studies continued. A contractor is writing an Assessment Plan (Joint-Trustee effort). The Forest Service contracted for a Recreation Impact Assessment that was in draft at the end of the year.

FACILITY: **Livingston Mill Site, Sawtooth National Forest**
Twin Falls, Idaho

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Livingston Mill Site area is located at the confluence of Jim Creek and Boulder Creek approximately four miles west of the East Fork of the

Salmon River, Custer County, Idaho within the Sawtooth National Recreation Area administered by the Sawtooth National Forest.

The Livingston Mill Site, like numerous other mining related sites, has a long history. Albert S. Livingston and William F. Livingston originally located the Livingston Mine on July 28, 1882. The Livingston mine was the largest base metal producing mine in southern Idaho. Various individuals and companies have held an interest or control in total, or in part, of the Patented Lode and Unpatented Lode and Mill Site Claims associated with its development. The Livingston Mill Site was originally located as the Jim Creek Mill Site on January 5, 1924, by Livingston Mines Corporation and James E. Walker, Agent for Livingston Mines Corporation. The Livingston Mine consisted of 134 Lode, 34 Mill sites and 3 Tunnel Site mining claims. Seven lode mining claims are Patented, Clara, Deadwood, High Tariff, Little Falls, Livingston, May and Trensvalle (AKA Transvaal, Transvalle and other spellings).

Anadromous fish reside and migrate in reaches of the East Fork Salmon River and Big Boulder Creek. The following Threatened and endangered species have been identified: bull trout (*Salvelinus confluentus),* Chinook (King) Salmon (*Oncorhynchus tsawytscha),* Rainbow Trout (Steelhead) *(Oncorhynchus mykiss),* Inland Columbia Basin redband trout (*Oncorhynchus mykiss gairdneri)*, west slope cutthroat trout (*Oncorhynchus clarki lewisi).*

Contaminants of concern include lead, zinc, copper, silver, arsenic and selenium associated with 60,000 tons of tailings.

In FY 1994 the Forest Service conducted a sampling and testing program, which indicate a high level of lead.

In 1997 Forest Service Personnel completed a PRP Search begun in 1996.

During FY 1999 a PA was initiated.

FY 2000 WORK: The PA was completed. An SI package was put together for contracting but not released and is scheduled to be completed in FY 2001.

FACILITY: **Missouri Mine, Boise National Forest**
Boise, Idaho

STATUS: Docket. Non-NPL. (Listed on the February 5, 1993, docket). PA complete. Removal underway.

NARRATIVE: This is an inactive base metal mine operated for zinc and lead extraction. There are known releases of cadmium, arsenic, copper, iron, manganese, zinc, antimony, lead, nitrates, and potassium cyanide into the creeks and settling ponds. Adits and tailings piles are also releasing hazardous substances. Various contaminants were tested and found to exceed either the EPA acute or chronic toxicity levels. Sulfide compounds are also a problem at the mine. Barrels were removed from the site in 1993. The drainage from the main adit was addressed through a PA and EE/CA. The Boise National Forest started a PA and EE/CA in the summer of 1994, but had to postpone the effort because of the heavy fire season. In 1995, the Forest finished surveying and chemically testing the site. This information was used to complete the PA and an EE/CA. Further action is pending, based on funding.

Additional PRP work was done in FY 1996, indicating that the bonding company and the last mining company are defunct and that the current claimant is not financially viable.

PA and Sampling and Analysis Plan were completed in FY 1997. PRP work continued.

PRP work continued and the EE/CA was completed in FY 1998. Additional sampling and design work was carried out under contract.

On-site location for a repository and design of it were initiated in FY 1999. Phase 1 of the removal action was started.

FY 2000 WORK: The removal action is fully underway. Additional PRP search work was conducted.

FACILITY: **Monarch Mine Stamp Mill Site, Boise National Forest (Kirby Dam, Riverside Campground, Monarch Stamp Mill Tailings) Boise, Idaho**

STATUS: Docket. Non-NPL. (Listed on the September 27, 1991, docket).

NARRATIVE: In 1991, a portion of the Kirby Dam failed on the middle fork of the Boise River, at Atlanta, Idaho, and resulted in the release of mill tailings contaminated with mercury and arsenic. The release resulted in elevated levels of mercury in fish flesh and in the exceedance of drinking water standards. The tailings came from mining activities in the Yuba River and the Middle Fork of the Boise River watersheds above the dam.

A Time-Critical Removal action was completed in April 1992, to construct a new dam. Currently, the tailings are stabilized in place behind

the newly constructed dam. As part of an agreement with the State, fish are being tested below the dam, and their mercury contamination levels are below State standards. In 1993, the EPA Region 10 issued its preliminary Hazard Ranking System score of 50 and requested a Sampling Investigation (SI) to facilitate the final hazard ranking score. In October 1995, the Forest Service completed a PA/SI and submitted it to the EPA. Based upon the submission the EPA issued a letter of No Further Remedial Action Planned (NFRAP).

Additional Removal Actions are being undertaken in the watershed. A Removal PA and an EE/CA were completed for the Riverside Campground. The campground was closed because of the presence of large quantities of mine tailings, contaminated with mercury and arsenic, used for fill around tent pads and picnic tables. A removal action was completed to move tailings to a repository. The Removal Action at Riverside Campground was completed in FY 1998. In May 1998 a leak was detected in the liner at the Riverside Campground Repository site. The site was monitored and tested in November 1998. It was determined a quantity of fluid was exiting the repository liner. The effluent was determined to contain arsenic. Sampling of the monitoring wells continued during FY 1999.

A second removal action is planned to stabilize the Monarch Stamp Mill Tailings upriver from the Kirby Dam. Site characterization of the tailings was done in the summer of 1995.

The Monarch Stamp Mill tailings are being eroded away during the river's high-water events. The site characterization of the Monarch Site in 1995 delineated the extent of the contaminated tailings but did not resolve the groundwater contamination question. The Boise National Forest contracted with the Bureau of Reclamation in the fall of 1996 to install three groundwater-monitoring wells to provide some basic groundwater information in preparation for writing an EE/CA.

Monarch Mill Site Tailings were monitored to determine the extent of a ground water arsenic and mercury plume. Work was centered approximately one-half mile upstream from the Riverside Campground.

The Talache/St. Joseph mine tailings embankments in the watershed failed on May 15, 1997, releasing approximately 16,000 cubic yards of material onto adjacent private and public lands administered by the Forest Service. The Forest Service, State of Idaho, EPA, Fish & Wildlife Service, and the Army Corps of Engineers worked as a technical team on the time critical response action that resulted.

EPA took the lead from State of Idaho on private property. The Forest Service took the lead on NFS lands. The Time Critical Removal Action was completed, and a Non-time Critical Removal undertaken. The EE/CA was completed by an EPA Contractor during 1999. Geotechnical drilling was completed on the Talache/St. Joe Tailings.

FY 2000 WORK: A PRP Search contract was issued for the entire Monarch Stamp Mill Site.

FACILITY: **Mountain Fuel Mine, Caribou National Forest**
Soda Springs, Idaho

STATUS: Non-Docket, Non-NPL. PA, PRP Search complete.

NARRATIVE: The mine is over three miles in length and lies between the Champ and the Georgetown Canyon Mines. It operated between 1985 and 1993. There are possible selenium contamination problems.

FY 2000 WORK: A Preliminary Assessment and a Potentially Responsible Party Report were contracted in 2000. They are scheduled for completion in early FY 2001.

FACILITY: **North Maybe Canyon Mine, Caribou National Forest**
Soda Springs, Idaho

STATUS: Non-Docket, Non-NPL. PA, PRP Search complete.

NARRATIVE: This mine is located on the east side of Dry Valley, about 17 miles NE of Soda Springs, ID in Caribou County. There are potential selenium problems at the site.

FY 2000 WORK: A Preliminary Assessment and a Potentially Responsible Party Report were contracted in 2000. They are scheduled for completion in early FY 2001.

FACILITY: **Pope Shenon Mine, Salmon National Forest**
Salmon, Idaho

STATUS: Non-Docket. Non-NPL. PA, PRP Search complete.

NARRATIVE: This is an abandoned copper mine. It contains many old workings and the remnants of buildings. Three are six tunnels. Waste rock, ore and tailings are on site. The site covers about 10 acres with the waste piles totaling about 2 acres. There are high concentrations of copper, zinc, arsenic, lead,

mercury, and silver on site. There is no water discharging from the adits. Water ponds on site from winter snow melt. A PRP search and PA were completed in 1999. Review indicates no viable PRP's for the site. There is a need to clean up tailings on the surface, which are dispersing each spring during snow melt.

FY 2000 WORK: The EE/CA was contracted in FY 2000 with completion expected in FY 2001.

FACILITY: **Preacher's Cove Mill Site, Challis National Forest**
Challis, Idaho

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Preacher's Cove Mill site was an active gold processing facility on National Forest System lands situated 180 meters from the edge of the Yankee Fork of the Salmon River. A release of cyanide into the groundwater next to the river was suspected. In July 1994, the Forest Service worked with the mill operator and the State to drill two new, monitoring wells to confirm the release(s). The cost of the new wells was borne by the mill operator. Since no release was detected, the site will not be placed on the docket. No further CERCLA action was anticipated.

In April 1995, a Forest Service inspection indicated a loss of solution from the cyanide number 2 pond caused by four holes found in the pond liner. The estimated solution loss was 23,000 gallons of solution with a maximum cyanide concentration of 21.5 ppm of weak acid-dissociable cyanide. The mill operator was advised to report this incident to the National Response Center. Groundwater monitoring and flow modeling indicated no risk to the river.

The following CERCLA actions have taken place: the National Marine Fisheries Service (NMFS) concurred with the proposal to land-apply the cyanide-pond solution, drums of petroleum-contaminated soil were hauled offsite, all hazardous chemicals have either been properly stored, used, or removed, 80 percent of the conventional mill has been salvaged and removed from the site, 182,000 gallons of cyanide-pond solution have been neutralized to the State standard of 0.2 ppm weak acid-dissociable cyanide and have been land-applied, the above-ground storage vault was decommissioned, the mill's water-supply well was converted to a groundwater monitoring well, the tears in the number 2 pond liner were repaired, pond samples have been analyzed for toxic contaminant leachate process metals, and extensive surface drainage rehabilitation work has been completed by the operator. Additional CERCLA actions are not anticipated.

In FY 1996, the Forest Service began implementation of the forest reclamation plan with the operator in order to close the site. Additional sampling and site characterization work were done. Land application of the detoxified pond solutions was finished. Sludge remaining in the ponds was consolidated into pond number 1 and temporarily encapsulated, awaiting final disposal through the reclamation plan. Additional buildings and equipment were removed.

In FY 1997, an IDEQ/Operator Consent Order was signed (December 1996). All structures were removed. Leach ponds numbers 2 and 3 were decommissioned and all leach sludge combined in pond number 1, which was covered with a synthetic liner. Site characterization (ABA, pH, TCLP, SPLP, agronomy) was completed.

In FY 1998, sludge vault residues were shipped off-site to the Envirosafe site as hazardous waste in compliance with the Consent Order.

In FY 1999, the final closure plan design work consisting of hydrologic and geotechnical design criteria, etc. was instituted.

FY 2000 WORK: Water monitoring was continued. Repairs completed on the liners. Plans for FY 2001 are to contract out a biological assessment required under the ESA prior to site closure. Site closure should begin later in FY 2001.

FACILITY: **Rio Tinto Mine, Humboldt National Forest**
Elko, Nevada

STATUS: Docket. Non-NPL. (Listed on the December 15, 1989, docket). The Forest Service sent a PA to the EPA, which scored the site. The initial score was below that required for listing on the NPL.

NARRATIVE: The Rio Tinto mine is located in northern Elko County, Nevada, in the Mountain City Mining District. The Site is entirely on private lands acquired through the homestead entry, mining patent processes and a Small Tracts Act sale. In 1931, S. Frank Hunt discovered a copper vein at Rio Tinto. The Mountain City Copper Co., a subsidiary of Anaconda Copper, acquired the site. Anaconda Copper operated the mine using underground mining techniques and a flotation mill from 1932 to 1947. The George Wallace Company operated the site in the late 1960's. Cliffs Copper Corp. operated the site into the 1970s.

The Rio Tinto Mine site consists of extensive workings, spread over about 250 acres, which includes a tailings pile and dam, waste rock dumps, six adits, shafts, eroding structures, a small heap leach pad and abandoned

process residuals. In 1990, PA was prepared by the Humboldt National Forest. A PRP search was conducted in 1992. A Finding of Alleged Violation and Order was issued by the Nevada Division of Environmental Protection (NDEP) on July 15, 1993, to several past owners and operators at the site, and to the Forest Service.

In 1996, the State of Nevada, the PRPs, and the Duck Valley Shoshone-Paiute Tribes began negotiating an Administrative Order on Consent, under Nevada law, to address the private portions of this Site. Under the State AOC, the companies began reclamation at the Site. In August of 1996, the Forest Service completed a Removal Action Memorandum for the Rio Tinto Mine area on National Forest System (NFS) lands. The decision made in the memorandum was that a time critical removal action was appropriate for the Site, and the final, selected Removal Alternative was to sell the NFS parcels under the Small Tracts Act (16 U.S.C. 521b), and thereby transfer contaminated NFS land from Forest Service jurisdiction to the PRPs.

On August 16, 1997, the PRPs began construction activities on NFS lands quit claim deeded to the PRPs.

On December 20, 1997, the Companies and their contractors completed cleanup actions consistent with the Nevada AOC. Since the Site no longer lies on NFS lands, no further Forest Service response action has occurred at the Site. The State of Nevada has been responsible for monitoring.

In FY 1999, the PRPs continued to monitor the site and conduct necessary maintenance.

FY 2000 WORK: The Forest Service was approached by the Indian tribes, trustees at the site, to consider entering into a NRDA action. A request for funds for a Preliminary Assessment Screen in FY 2003 were submitted.

FACILITY: **Smoky Canyon Mine, Caribou National Forest**
Soda Springs, Idaho

STATUS: Non-Docket. Non-NPL. PA, PRP Search complete.

NARRATIVE: This is a phosphate mine located in Caribou County, Idaho. There are potential selenium contamination problems at the site.

FY 2000 WORK: The Forest Service began a Preliminary Assessment and a PRP search. Both are scheduled for completion in early FY 2001.

FACILITY: **South Maybe Canyon Mine, Caribou National Forest**
Pocatello, Idaho

STATUS: Docket. Non-NPL. PA complete.

NARRATIVE: Phosphate rock mining at the South Maybe Canyon mine occurred from 1976 to 1983. Mining occurred on Federal Phosphate Lease I-04. A large (+35 million cubic yard) waste dump was constructed as a cross-valley fill to handle the overburden from this surface mine. The perennial South Maybe Creek runs under the cross-valley fill. The mine and overburden dump are situated on National Forest System (NFS) lands. The dump is constructed partially on the Federal lease (permitted by the BLM) and partially on NFS lands authorized by a Forest Service Special Use Permit. Reclamation on the dump was completed in the early 1990s. In December 1996, the Forest Service and BLM were made aware that several horses pastured down-stream from the dump were showing signs of selenium toxicosis. Sampling and testing verified that South Maybe Creek had elevated selenium levels.

The PRP search was started in FY 1997. A public relations plan was completed in 1997. Warning signs were posted on-site concerning possible contamination of surface waters. The PA and preliminary SI were completed in September 1997.

A supplement to the PA was completed in December 1997. The PRP search was concluded and a letter was sent to the identified PRPs in March 1998. An AOC for completion of the PA and performance of an EE/CA between the Forest Service and the PRP was signed in July 1998. In July, a draft SI Sampling and Analyses Plan were completed. Site testing was continued with drilling being done to test for possible ground-water contamination. SI work continued.

The EE/CA work plan was completed in February 1999. Additional site characterization and sampling were done. The draft SI was completed in March 1999. Work continues to finalize the SI.

FY 2000 WORK: An extension of time given to the PRPs to finish the SI with a new completion date expected in FY 2001.

FACILITY: **Stibnite Mine Site, Payette National Forest**
McCall, Idaho,

STATUS: Docket. Non-NPL. (Listed on the September 27, 1991, docket). A PA/Sampling Inspection was completed in 1993. A PRP completed a

Removal Action in 1998. The Forest Service completed a second Removal Action in 1999.

NARRATIVE: The site consists of a number of inactive and abandoned operations on tributaries of the Salmon River on private and National Forest System lands. This site has been an inactive mine since 1997 when the last operator declared bankruptcy. Natural resource damage assessment actions are pending and there is a possibility that this site will be listed on the NPL. At the request of the EPA, the Forest Service conducted field sampling in July 1993, and the associated analysis was completed in October 1993. The SI report was submitted to the EPA in December 1993.

The EPA issued a CERCLA order in 1995 to the last active mining operator for imminent breach of the elevated Meadow Creek channel. Should such a breach occur, the uncontaminated water in the creek would flow into the valley bottom, which is filled with mine tailings, and wash the tailings into the nearby river. A massive fish kill is the likely result of such a breach. The channel work was started in the fall 1995 and postponed until spring 1996 because of weather problems.

In 1996, the majority of the work being done by the PRP under an EPA CERCLA Order, was completed by winter shutdown. Throughout 1996, the PRPs, and the Idaho DEQ had been negotiating a Consent Order for cleanup of the Stibnite Mining Area. Signatures were obtained between December 1996 and February 1997 from the PRPs. The State Voluntary Consent Order was expected to alleviate the need for additional independent action by the Forest Service or the EPA. The proposed process called for characterization of the site and evaluation of potential remedies through 1999, with implementation of remedies to begin in 2000. This order was to follow the CERCLA remedial process.

In 1997, the PRPs continued to operate an active gold mine and accomplish the work required in the 1995 AOC. The work was never completed and the EPA terminated the AOC for violations of the AOC and fined the PRP $2.3 million dollars of stipulated penalties. The company declared bankruptcy and relinquished the mine reclamation bond to the Forest Service, Idaho Department of Lands, and Idaho DEQ.

In 1998, the Forest Service and the EPA entered into a Memorandum of Understanding to facilitate the continued response actions. Estimated completion date for this project is 2004. The Forest Service and EPA also entered into a CERCLA AOC with Mobil to complete the removal actions not completed by SMI. Action was completed in November of 1998. The Forest Service, Idaho Department of Lands, and Idaho DEQ started the final reclamation using the bond money relinquished by SMI.

In 1999, the Forest Service performed a time critical removal action. This action consisted of capping some existing cyanide ponds at the pilot process area. The lined ponds contained sediments that contained elevated levels of metals significantly above background. An impervious geo-liner was used to cap the ponds.

FY 2000 WORK: A final settlement between the United States and Exxon/Mobil was negotiated.

FACILITY: **Talache Tailings, Boise National Forest**
Atlanta, Idaho

STATUS: Non-Docket, Non-NPL.

NARRATIVE: The site contains a mix of private and NFS lands with approximately 29 acres of National Forest System (NFS) lands underlying the tailings and downslope of the site. The area is northeast of the town of Atlanta, Idaho. In 1997, a tailings dam located primarily on private land failed, and tailings were deposited approximately two miles downstream on NFS lands. The 31,000 cubic yards of released tails contained high levels of arsenic. They tails also entered the Middle Fork of the Boise River.

FY 2000 WORK: The EPA is conducting a removal action with the PRPs that is scheduled for completion in 2001. The Forest Service is considering a land exchange for some of contaminated property to the PRP.

FACILITY: **Tungsten Jim Mine, Challis National Forest**
Challis, Idaho

STATUS: Non-Docket. Non-NPL. PA completed.

NARRATIVE: This site is an inactive mine with a current mine owner. The Forest Service completed a PA and will contact the mining company regarding cleanup of the site. The site has one adit, two shafts, a 2,000 cubic yards waste rock pile, ore bin, former equipment/shop area. The disturbed area is approximately 15 acres. About 7.5 miles downstream of the mine is the former Sheelite Jim Mill Site that processed ore from the Tungsten Jim Mine. No facilities or structures remain at the mill site. Cyprus Minerals reclaimed the former tailings disposal area in 1999. Water is discharging from the upper adit with a pH of 7.2. Concerns are with mine waste stability and the possible presence of acidic or heavy metal contamination. The waste rock contains high levels of arsenic, copper and zinc. Other

tests found antimony, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and zinc.

FY 2000 WORK: Preliminary discussions with the PRP began.

FACILITY: **Wooley Valley Mine, Caribou National Forest**
Soda Springs, Idaho

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Wooly Valley Mine is made up of the Blackfoot Narrows Mine (Wooley Valley Unit #1), an unnamed mine (Wooley Valley Unit #2), the Little Long Valley Mine (Wooley Valley Unit #3), and the Mill Canyon Mine (Wooley Valley Unit #4). They are located in the Wooley Valley Range about 15 miles NE of Soda Springs, ID. There are potential selenium contamination problems at the site.

FY 2000 WORK: The Forest Service began a Preliminary Assessment and a Potentially Responsible Party Search. Both are scheduled for completion in early FY 2001.

FACILITY: **Zaca Mine, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-docket, Non-NPL

NARRATIVE: The Site is located approximately five miles west of Markleeville, California, and 26.5 miles west of Minden, Nevada, on the Carson Ranger District, Toiyabe National Forest. Historical mining has impacted the entire watershed. The Zaca Mine was the first to be located in Alpine County. It is a consolidation of two adjacent mines once known as the Advance and the Colorado. L.L. Hawkins, rancher and mining engineer, claimed to have made the discovery of silver ore along Monitor Creek on Colorado Hill at or near the site of the present mine workings, in 1857. The site has undergone intermittent mining and exploration up until present. In 1994, a Plan of Operation was submitted by Western States Minerals Company to the Forest Service for a proposed mining operation at the site. However, the company withdrew its proposal.

On October 19, 1998, a Complaint, with Jury Trial Demanded, was filed in the United States District Court, Eastern District of California, by the California Sportfishing Protection Alliance against Western States Minerals Corporation, a.k.a. Zaca Resources Corporation. The suit was brought as a citizens' suit pursuant to Section 505 of the Clean Water Act,

for defendant's ongoing failure to obtain a National Pollutant Discharge Elimination System permit for the Zaca Mine.

In 1998, the Forest Service initiated contacts with Western States Minerals Corp. requesting their participation in site cleanup in conjunction with the State of California.

In 1999, a PA was completed by the Forest Service. The State of California and the Forest Service entered into an MOU that outlines how they will work together on cleanup of the site. Negotiations began with Western States Minerals (also known as "Zaca Resources Corporation"), the current operator/mining claimants at the site. A Statement of Work was drafted, however the Administrative Order or Consent (AOC) has not been finalized. The State of California will be a co-signatory to the AOC with the Forest Service.

FY 2000 WORK: Negotiations continued with the PRPs to do work at the site. The Forest Service is also addressing the entire Colorado Hill Watershed. A PA has been completed for the Colorado Hill Watershed and an EE/CA is planned.

FOREST SERVICE
REGION FIVE

FACILITY: **Middle Shooting Range, Angeles National Forest**
Arcadia, California

STATUS: Non-Docket. Non-NPL. National Response Center notified on May 8, 1996, of a suspected reportable quantity of lead in the soil.

NARRATIVE: The Middle Shooting Range is an inactive recreational shooting range near the Forest Service Monte Cristo Ranger Station. It is approximately 5 acres in size and is located in a wide canyon among sharp crested and broken mountains. The area is sparsely vegetated and has fine-grained, sandy soil with some rocks and gravel at the site. There is a perennial spring, Mill Creek's Middle Fork, which crosses the site, and some sections flow beneath ground surface. The nearest residents are at Hidden Spring (1.5 miles from the site) and rely on private wells for their domestic water supply.

In 1996, sampling and testing of the soil at the site for a Project Environmental Assessment resulted in high quantities of lead detected in the soil. The Forest Service proceeded to notify the National Response Center of the release on May 8, 1996. An investigation of the lead in the soil at the shooting range was completed. This investigation includes the health risks to employees and patrons from dermal contact, inhalation, and ingestion of the soil.

In 1997, the FS performed wetlands survey, additional sediment sampling, and amended the PA/SI.

In 1998, the FS prepared Job Hazard Analyses for on-site maintenance and future restoration work.

FY 2000 WORK: No work was conducted in 2000. Additional air monitoring is scheduled for 2001.

FACILITY: **Cabin Mine, Eldorado NF**
Placerville, California

STATUS: Non-docket. Non-NPL.

NARRATIVE: The Cabin Mine site is an early 1900's abandoned gold mine that consists of two collapsed adits in the slope adjacent to a small perennial stream.

The abandoned mine inventory completed in 1992 noted drainage from the collapsed adits gave indications of possible acidic rock drainage. Subsequent investigation in 1998 found acidic drainage in the range of 3.5 to 4.3 pH and cadmium and other heavy metals at concentrations that in some locations exceeded the maximum contaminant level (MCL) and also the State water quality standards protective of freshwater aquatic life. A baseline PRP search was completed in 1998. A PA was completed in 1999.

FY 2000 WORK: Additional work was carried out to develop a more comprehensive PRP search document. A Site Management Team was formed and additional site characterization work necessary for the EE/CA was completed.

FACILITY: **B&B Mine, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The B&B Mine is an abandoned mercury mine and mill. The mine and support facilities consist of 50 acres of dangerous open-pit workings (which overlap earlier underground workings), large quantities of calcine wastes were dumped into the canyon below the mill site. Mercury contamination of the mill and surrounding area is highly probable. A field investigation, a site characterization that included basic sampling and data collection, and PA has been completed for the site. The PRP Search has been completed. A contract has been issued for the completion of a SI Report.

FY 2000 WORK: The contractor has submitted a draft SI report. The information in the PRP Search was summarized in a new format that can be used to determine if there are viable responsible parties.

FACILITY: **Red Rock Mine, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Red Rock Mine is an abandoned mercury mine and mill. The mine and support facilities consist of 20 acres of dangerous open-pit workings (which overlap earlier underground workings), a partially collapsed mill building, 14 support structures, and various waste-dump sites. Mercury contamination of the mill and surrounding area is highly probable. A field investigation, a site characterization that included basic sampling and data collection, and PA has been completed for the site. The PRP Search has

been completed. A contract has been issued for the completion of a SI Report.

FY 2000 WORK: The draft SI report was completed. The information in the PRP Search was summarized in a new format that can be used to determine if there are viable responsible parties.

FACILITY: **Hanna Mill Site, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Hanna Millsite is an abandoned mill for processing gold from the May Lundy Mine complex. The millsite and support facilities are located on 23 acres and consist of mill tailing, foundations, haulage adit, collapsed flotation buildings, and adit rock waste dump. Arsenic and lead contamination from the waste rock and milling tailings are indicated from sample analyses. A field investigation, a site characterization that included basic sampling and data collection, and draft PA has been completed for the site. The PRP Search has been completed.

FY 2000 WORK: The final draft of the PA was completed.

FACILITY: **Cardinal Mine and Mill Site, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Cardinal Mine is an abandoned mine and mill site located on 20 acres. The site consists of five adits, mill tailings, and mine waste rock. The principal concern is the migration of metal bearing materials and impact the aquatic habitat and water quality of Bishop Creek. Migration off site has been indicated in preliminary samples analyses. A field investigation and a site characterization that included basic sampling and data collection have been completed. The PRP Search has been completed.

FY 2000 WORK: The PA was started.

FACILITY: **Whitecap Mill, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The site consists of 25 acres and includes two processing sites for tungsten. The site includes a number of buildings and equipment. The mine waste rock and mill tailing samples results indicated high concentrations of lead. In 1997, hazardous wastes were identified as a result of a flood. The contaminated material was containerized and removed for disposal. PRP negotiations were begun. There is a trespasser onsite impacting response actions. In 1998, a PCB spill was identified due to a vandalized transformer and was cleaned up. The spill was reported to the National Response Center. In 1999, the PA was begun for the site and PRP negotiations continued.

FY 2000 WORK: The final draft of the PA was completed. Responsible party negotiations are still ongoing.

FACILITY: **Log Cabin Mine, Inyo National Forest**
Lee Vining, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site includes waste rock, mill tailing, buildings, support structures, solid wastes disposal site and associated roads. Wastes were generated during gold mining and milling operations conducted at the site. A site characterization that included basic sampling and data collection has been completed. Analyses indicate high concentration of lead in the waste rock and Antimony in Thompson Creek, indicating a possible release from the site. The Forest Service acquired this property through a land exchange in 1990.

FY 2000 WORK: The PA was completed.

FACILITY: **Siskon Mine, Six Rivers National Forest,**
Eureka, California.

STATUS: Non-Docket. Non-NPL. The National Response Center was notified in July 1993, of a reportable-quantity release of toxic metals into Copper Creek.

NARRATIVE: The Siskon Mine was operated from 1951 to 1960 and was mined for deposits of gold and silver. Gold and silver were extracted using an all-slime cyanide processing plant. The site was identified as a potential hazardous waste site after mill tailings, acidic mine drainage, many open cyanide drums containing residues were found on the site. The site is adjacent to Copper Creek, which supports anadromous fish. The site is remote and there are no nearby residents or drinking-water wells.

In July 1993, the Forest Service reported the erosion of the mill tailings into Copper Creek to the National Response Center as a release of reportable quantities of toxic metals. In September 1994, the Forest Service submitted a PA to the EPA. Limited sampling of the mill tailings indicated that there are elevated levels of arsenic, copper, zinc, and cyanide. In September 1995, the EPA decided that the Siskon Mine site is a high priority and a SI was required. A Site Inspection and Screening Level Risk Assessment was begun in 1996, with the draft report completed in 1998. Preliminary ARARs were received in 1998. The known PRPs have been notified at various times in 1994 and 1998, and additional information was gathered on their activities at the site. In FY 1999, a Removal Action was completed under contract whereby 819 cyanide drums were treated and disposed of.

FY 2000 WORK: Extensive project planning was conducted for a Removal Action for reclamation of the mill tailings, mill, and mine road. Aerial photography and digital orthophotos were obtained of the project area by contract. A topographic site survey was completed. Draft biological evaluations were completed for fisheries, wildlife, botany and survey and manage species. Preliminary engineering designs and costs were prepared for road reconstruction and the stream crossing. Engineering design is ongoing. The PRP search was updated.

FACILITY: **Buzzard Hill Mine, Klamath National Forest**
Yreka, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Buzzard Hill Mine is an abandoned gold mine. The site has acid-generating mine waste, acidic discharge, heavy metal-contaminated soil and relict tailings, and cyanide drums. The discharge and mine waste has contaminated the water and stream sediments of Buzzard Creek. Buzzard Creek flows into the Klamath River, which is designated as Wild and Scenic and is an anadromous fishery. The Department of the Interior (Bureau of Mines) completed a field investigation and report of the site in FY 1996 through an Interagency Agreement with the Forest Service. A Site Inspection and Screening Level Risk Assessment was begun under contract in FY 1996, with the final report completed in FY 1997. In FY 1999, a Removal Action was contracted whereby 19 pounds of sodium cyanide were removed and properly disposed of and 125 cyanide drums were treated and properly disposed of.

The PRP Search was completed in 1996, but updates to it have occurred in 1998, 1999 and 2000. Several PRPs were notified in 1998.

FY 2000 WORK: Completed Removal PA, EE/CA, action memo, and contracted for Cyanide Drum Removal Action (125 drums, and 19 pounds of sodium cyanide removed). The Removal occurred in October of 1999. The PRP Search was updated, and further information was obtained on various corporate entities. A site visit was carried out with Forest Service geologists and mining engineers to determine the feasibility of entering or opening up the underground workings for investigation. It was determined that the mine is largely collapsed and unstable, and that underground entry would be dangerous, expensive, and probably not warranted for clean up. Passive treatments of mine drainage outside the collapsed portal, along with mine plugging, should be explored as methods to control or reduce contaminant discharge.

FACILITY: **Oak Bottom Landfill, Six Rivers National Forest, Eureka, California. (The Klamath National Forest is coordinating the project through FY 2000)**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Oak Bottom Landfill is a closed permitted dump/sanitary landfill, which operated from about 1960-1982. The landfill is surrounded by a Forest Service residential compound/administrative site, which was constructed in 1989. A waste characterization study was conducted in FY 1994 to determine if hazardous wastes were present in the dump/landfill. The study was completed in FY 1996. The findings from the study were not conclusive. There could be a lead problem at the site. Landfill waste extends into the yard of one home, and the landfill cover needs periodic maintenance, new cover and vegetation. The landfill is not considered an immediate threat to public health and safety at this time. There are two domestic water wells down gradient and within 1/4 mile of the dump/landfill. The wells supply the residential compound and campground. Nineteen trailers and manufactured homes of the Oak Bottom Residential Compound are within 1,000 feet of the landfill. A campground is within a 1/4 mile of the landfill. Approximately 30 permanent residents reside in the Forest Service residential compound. The Somes Bar elementary school is in the early stages of evaluating whether to relocate to a site on National Forest land adjacent to the landfill and FS administrative site. Requests have been made to construct a ball field on the landfill site. No action in FY 1997-1999.

FY 2000 WORK: Prepared an update report and submitted older reports for review by regulatory agencies. The PRP search is ongoing. A site field visit is planned for early FY 2001 with the regulatory agencies.

FACILITY: **Old Gray Eagle Mine Tailings, Klamath National Forest, Yreka, California**

STATUS: Docket Site. Non-NPL at this time but may be proposed for NPL. EPA is lead agency.

NARRATIVE: The site is a large 15 acre mine tailings waste dump on mostly private land. Tailings associated with the site are located on about 0.3 acres of National Forest System lands. The tailings are from copper mining of the Gray Eagle Mine in the 1940's. The tailings have high concentrations of sulfur, copper, zinc, iron, and as most of the tailings are unoxidized, an acidic leachate discharges from the base of the tailings into Indian Creek. The site is located along Indian Creek, 5 miles north of Happy Camp, CA. Indian Creek is an anadromous fish stream. EPA conducted a Site Investigation in 1996, and determined through bioassay, that the leachate is lethal to fish. In November of 1997, a Clean-up and Abatement Order was issued by the North Coast Regional Water Quality Control Board to the Klamath National Forest along with several other parties. EPA took over the responsibility for the entire Site (including the FS portion) as a Time Critical Removal Action in August of 1998. The Klamath National Forest coordinated with EPA on the Removal Action. Tailings were removed from 0.3 acres of NFS land and clean backfill was placed, stabilized and seeded in September 1998. EPA continued with Removal Action on the tailings on the private land, and re-graded them, placed rip rap, installed a liner and covered the liner with fill. EPA completed this phase of the removal in November 1998. In November of 1998, heavy rains caused severe erosion of the fill placed over the liner of the site; the Forest Service portion showed no erosion. Erosion control measures were conducted at the private land portion of the site from winter through spring of 1999. The Forest Service coordinated with EPA and North Coast Regional Water Quality Control Board on erosion control measures at site and conducted site inspections and monitoring from FY 1999-2000. EPA carried out a site sampling program in October of 1999 at the site to evaluate it for NPL status.

FY 2000 WORK: The Forest Service planted conifer trees on the Federal portion of the site in the Spring of 2000. Removed household debris (burned out house trailer) from the site in the Summer of 2000. Continued monitoring.

FACILITY: **Gibraltar Mine, Los Padres National Forest Santa Barbara, California**

STATUS: Docket. Non-NPL. (Listed on the July 1992, docket).

NARRATIVE: The Gibraltar Mine is an abandoned mercury mine located adjacent to a reservoir that supplies water to the city of Santa Barbara. The site consists of an open pit, several adits and shafts, a mill site, tailings that are adjacent to the edge of the reservoir, a cabin, and several piles of junk and vehicles. The tailings have been used as the base of some dirt roads in the area. Preliminary samples for mercury range from non-detectable in the reservoir, 13 ppm to 130 ppm in the tailings, and 28,000 ppm in the slag in the condenser trough at the mill site.

In May 1995, the Forest Service submitted a PA to the EPA. The EPA has decided that the Gibraltar Mine site is a higher priority and required a SI because of the preliminary sample results for mercury and the proximity of the tailings to the Gibraltar Reservoir. In September 1995, the Forest Service submitted the Human Health and Environmental Risk Assessment to the EPA. EPA Region 9 has requested additional information. This information was collected and sent in December 1995. A PRP search was completed in FY 1995 with no viable PRPs identified. In 1996, an EE/CA and public involvement were initiated. The EE/CA was completed in 1998 and the removal action was begun. In 1999, the removal was completed for the mine site.

FY 2000 WORK: Continued monitoring, and yearly water sampling and testing.

FACILITY: **Walker Mine Tailings, Plumas National Forest**
Quincy, California

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A Site Evaluation Accomplished classification was received from the EPA in 1992. A Record of Decision was signed on June 10, 1994.

NARRATIVE: Walker Mine is an abandoned copper mine located on patented, private land. It operated from 1920 to 1943. The State has plugged the main adit to stop acidic/metallic water flows. The tailings are located on 100 acres of National Forest System land and are cut by two creeks that are releasing turbid water and iron, copper, and zinc at levels that exceed receiving water limits. Soil is infertile, vegetation is sparse, and the site is affected by wind erosion. A PA/Sampling Inspection was prepared by the Forest Service and transmitted to the EPA for hazard ranking in 1986. The EPA ranked the site low enough that it did not make the NPL. The Forest Service is working with the State Regional Water Quality Control Board regarding waste discharge, monitoring, and reporting requirements. Solutions include revegetation and channeling clean surface water through the tailings. In 1991, work was performed on the environmental assessment, site mapping, site surveys, monitoring of contaminants, and temporary sediment control. Some of the work started in 1991 (tailings

characterization, monitoring, and revegetation planning) was continued in 1992.

In 1993, monitoring wells were installed. In 1993, test plots were constructed to evaluate various methods of erosion control and of fertilization and revegetation of the tailings. A Record of Decision was approved on June 10, 1994. In 1994, preparation for restoration work included hauling soil to Dolly Creek and purchasing seed, fertilizer, and wind fence material. Four acres of wetlands were constructed as a passive water-treatment system, and geomorphic restoration work was completed. A partnership agreement has been established for remedial construction work. Surface water and monitor-well water sampling continued. In 1995, remediation work continued, including wetland construction for the passive water-treatment system, construction of 52 acres of windfence, stabilization of the stream, and continued monitoring.

A preliminary PRP search was completed in November 1993. This resulted in the identification of a viable PRP. The Forest is continuing to pursue leads on other known PRPs through an extensive PRP search.

In 1996, approximately 15 acres of wetland areas were planted and the Human Health and Safety Investigation and Assessment report was completed. The Natural Resource Damage pre-assessment screening, was completed. The Forest Service determined that a full Natural Resource Damage Assessment will not be pursued. Continued PRP search and documentation. Continued water-quality monitoring. Collected native seed for FY 1997 planting.

In 1997, the Forest Service conducted vegetation planting, surface water monitoring, PRP negotiations, wetland maintenance and topsoil addition. Surface water monitoring and PRP negotiations were conducted in 1998-1999.

FY 2000 WORK: Surface water monitoring and PRP negotiations continued.

FACILITY: **Flume Camp Mine, Plumas National Forest**
Quincy, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Flume Camp Mine is an abandoned hardrock mine consisting of an open tunnel with indicators of acid mine drainage. Flume Creek drains from the tunnel, and there is no aquatic life downstream. Flume Creek drains directly into Canyon Creek, which is a fishery. The Department of

the Interior (Bureau of Mines) completed a field investigation of the site in FY 1995 through an Interagency Agreement.

The site characterization report was completed in 1996, including basic sampling and data collection. In 1999, the PA was completed.

FY 2000 WORK: No work conducted this year. Additional work scheduled for 2002.

FACILITY: **Pesticide Burial Site, San Bernardino National Forest**
San Bernardino, California

STATUS: Non-Docket. Non-NPL

NARRATIVE: Available information indicated that empty pesticide and herbicide containers were buried at three different locations on Forest Service property at the Lytle Creek Ranger Station in the 1970s. In 1997, the Forest Service conducted an inventory and PA for pesticide burial sites.

In 1998, nine 55 gallon drums, one 30 gallon drum, and three roll-off bins of waste material and contaminated soil at Lytle Creek Site were collected and transported off site for disposal.

FY 2000 WORK: Additional ground water monitoring is needed to determine if any further actions are necessary.

FACILITY: **Moreland Mine, Sequoia National Forest**
Porterville, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site is a group of historic (abandoned/inactive) and active mine claims at the Greenhorn Ranger District and is located entirely on National Forest System land. The site contains numerous drums, contaminated soils, a mill tailings pond, and waste dumps. A release of arsenic, lead, and mercury has been confirmed at the Jeannette-Grant Mill and the Bright Star tailings. In FY 1996, a contract was awarded to complete the PA/Site Inspection for Bright Star tailings. The PRP was notified and meetings were held regarding CERCLA responsibilities at the site. PRP negotiations continued in FY 1997 along with additional site characterization. A Site Management Team was formed in FY 1999 and a EE/CA was completed. Further action was placed on hold in FY 1999 pending additional PRP work. Sampling of drums at Moreland Mill revealed lead contamination of soil-like contents in FY 1998. PRP negotiations were initiated and continued through FY 1999.

FY 2000 WORK: At Bright Star tailings PRP searches were completed. At Moreland Mill, an Action Memorandum was completed in preparation for entering into an Administrative Order on Consent.

FACILITY: **Golden Jubilee Mine Mill, Shasta-Trinity National Forest**
Redding, California

STATUS: Non-Docket. Non-NPL. A site evaluation accomplished (SEA) classification was received from the EPA in September 1995.

NARRATIVE: The FS Mine Inventory Report of the abandoned Golden Jubilee Mill site was completed in 1994. The mill site includes 16 round, galvanized steel tanks ranging in size from 8 to 16 feet in diameter and 3 to 6 feet in height. These tanks and their wooden supports, which are now in varying conditions of collapse, were used for the cyanide vat-leaching operation. The possibility of a cyanide discharge from the mill site to the environment prompted the Forest Service to proceed with a PA. The PA was submitted to the EPA in December 1994. In September 1995, the EPA issued a SEA decision. In 1996 the removal PA/Sampling Inspection was completed. The PRP search yielded no viable PRPs. In 1997 the EE/CA and draft Removal Action Memo were completed.

FY 2000 WORK: Removal Action Memorandum signed. Contract awarded to complete Removal Action.

FACILITY: **Golinsky Mine, Shasta-Trinity National Forest**
Redding, California

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket).

NARRATIVE: The Golinsky Mine is an abandoned copper mine with leachate releasing from the adit. Leachate samples indicate a low pH and the presence of copper, zinc, cadmium, aluminum, and other heavy metals. A PA with alternatives for remedial work was prepared by the Forest Service contractor. The EPA received the PA and requested additional information needed to perform the hazard ranking. This information was forwarded to the EPA on August 21, 1991. Contract work to clear the old mine adit of tunnel debris, obtain hydro geologic information, and establish monitoring points has been completed, as have proposed solutions for remedial work. The preferred remedial solution, plugging the mine adit, has been delayed because of the subsequent failure of remedial actions (mine plugging) at Mammoth Mine, which is located near Golinsky Mine. In FY 1995, a contract was awarded to conduct a

PRP search, to review the existing analytical data, and to provide a field sampling report with recommended alternatives for further action. A viable PRP was identified and negotiations have begun concerning an AOC for a removal action.

In FY 1996, additional testing as requested by EPA Region 9 was completed. The PRP search was completed. In FY 1997, monitoring was performed. In FY 1998**,** a treatability study was completed. In FY 1999, the Forest Service coordinated with the California Regional Water Quality Control Board and prepared a removal action memorandum.

FY 2000 WORK: Completed an AOC. Opened negotiations with the PRP. Completed plans and specifications for bulkhead installation. Evaluated contractors for the bulkhead construction.

FACILITY: **Shaver Lake Landfill, Sierra National Forest**
Clovis, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Landfill characterization results from the Forest Service landfill inventory program indicate elevated levels of lead that were the basis of identifying a hazardous substance release. A PA with limited sampling analysis for this site was completed in 1994. Groundwater sampling also shows elevated lead levels. The PA was forwarded to the EPA in September 1994. The EPA Region 9 PA Review issued a SEA decision. In 1995, a site investigation contract was awarded to investigate the extent of waste constituents in the groundwater as required by the California Regional Water Quality Control Board. The 1995 groundwater investigation found no elevated levels of lead. Monitoring and additional well installation was completed in FY 1996 through 1999. The results were summarized in FY 1999 for inclusion in a Risk Assessment.

FY 2000 WORK: Awaiting closeout by State to confirm no further action needed.

FACILITY: **El Portal Mine, Sierra National Forest,**
Mariposa, California

STATUS: Docket. Non-NPL.

NARRATIVE: The El Portal Mine is a barite mine that ceased operation in 1948. As a result of mining activities, about 11,000 cubic yards of mining waste piles lay below the mined hillsides. Some of these waste piles were high in barium content and adjacent to a streambed. A PA was completed in

1988. The EPA Region 9 review determined that a SI was needed. In August 1990, after reviewing the SI, EPA indicated that it would not require further action at the site leaving the decision up to the Forest Service or the State. A RI/FS was completed in 1991. The Record of Decision was signed in October 1991. The selected remedy included removal and proper disposal of empty barrels containing chemical residues; diversion of acidic water discharge from mine portal 1 onto a permeable, rocky slope; stabilization of the eroding waste rock pile immediately down slope from mine portal 1 through a combination of physical reshaping and re-vegetation; and surface-water monitoring to verify the level of heavy metals and the pH of surface-water in Pigeon Gulch downstream from the mine. The remediation activities were completed in November 1991.

In 1994, new information surfaced concerning corporate involvement in the El Portal Mine. A PRP search was performed in FY 1995. The PRP report was completed and the case was referred to the Department of Justice for recovery of response costs incurred by the Forest Service. Settlement negotiations with the PRP led to a draft agreement.

FY 2000 WORK: Awaiting settlement agreement signing. Settlement negotiations were ongoing with the PRP. Expect agreement to be signed in 2001.

FACILITY: **Juniper Mine, Stanislaus National Forest**
Sonora, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Juniper Mine is an abandoned open-pit uranium mine. Uranium deposits were discovered in 1955, and the mine was worked until the 1970's. The mine has been abandoned since 1986. In 1992, a PA was completed and forwarded to the EPA. In 1993, the EPA reviewed the PA and has decided that a SI is needed at this site. In 1994, a SI Sampling Plan was developed. A contract for sampling and testing was awarded in FY 1995.

The focused SI sampling was completed in 1996, and a draft report was received from the contractor. In 1998, the PRP search began and was completed in 1999.

FY 2000 WORK: Evaluating the PRP search results before work proceeds.

FACILITY: **Tennessee Mine, Tahoe National Forest**
Nevada City, California

STATUS: Non-Docket. Non-NPL

NARRATIVE: Located along Canyon Creek, a tributary to the North Yuba River, on the Downieville Ranger District in Sierra County, 10 miles north of Downieville, CA. An Abandoned Mine Land report from the California Department of Conservation describes water discharge from a collapsed adit with low pH of 2.9 and high conductivity. Orange iron oxide stain coating was observed on substrate of the stream channel, which is often associated with heavy metal precipitant. Conductivity levels are reported by DOC to be consistently high at this site. Canyon Creek has been nominated by the TNF for Wild and Scenic River consideration.

FY 2000 WORK: A PA/SI and a PRP search for the site were initiated. Both are scheduled for completion in FY 2001.

FACILITY: **La Trinidad Mine, Tahoe National Forest**
Nevada City, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Located along Sailor Creek, a tributary of the North Fork American River on the Foresthill Ranger District in Placer County, approximately 10 miles south of Cisco. Previous work has noted high concentrations of arsenic bearing minerals in the mill tailings, with the discharge of this material into Sailor Creek. Testing of samples of stream substrate sediments suggest some impairment of the aquatic habitat, probably as a result of a release from the site. The mine site is located just off the Sailor Flat Trail, a heavily used hiking trail on the Tahoe National Forest.

FY 2000 WORK: A PA/SI and a PRP search for the site were initiated. Both are scheduled for completion in FY 2001.

FACILITY: **Ancho Erie Mine and Mill Site, Tahoe National Forest**
Nevada City, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Located on the Nevada City Ranger District in Nevada County, along Poorman Creek, a tributary to the South Yuba River. This mine and mill site has empty cyanide containers and 1,000's of cubic yards of crushed ore tailings discharging sediment into Poorman Creek.

FY 2000 WORK: A PA/SI and a PRP search for the site were initiated. Both are scheduled for completion in FY 2001.

FACILITY: **Meyers Landfill, Lake Tahoe Basin Management Unit**
South Lake Tahoe, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Meyers Landfill began operations in 1947. The identities of the users and operators for the first 8 years are currently unknown. A permit was issued by the Forest Service to El Dorado County to operate the landfill site from 1955 to 1959. Operation of the landfill continued under various contractors until 1971. In 1990, the Lahontan Regional Water Quality Control Board ordered the completion of a Solid Waste Assessment Test Report and required monitoring to be conducted at the site. A Solid Waste Assessment Test was completed in July 1996. Monitoring results showed elevated levels of aluminum, manganese, and iron (above drinking water standards) and periodic releases of vinyl chloride. Although high methane levels have been detected in wells within the landfill, none have been detected offsite. Based on the results obtained in FY 1996, El Dorado County was notified as a PRP. CERCLA Section 104 (e) information requests yielded additional PRPs. The Forest Service completed a Removal Action memorandum, closing the site to the public. In FY 1997, the Forest Service signed an Administrative Order on Consent (AOC) with the Joint Powers Authority for Solid Waste Management (El Dorado County, City of South Lake Tahoe, and Douglass County, NV) for additional investigation and monitoring as required by the Lahontan Regional Water Quality Control Board. This work continued through FY 1998 and 1999 with modifications to the AOC. In FY 1999, the Forest Service completed a Removal Action Memorandum for initial pump and treatment of contaminated groundwater. The pump/treatment system was installed and has continued to operate to date.

FY 2000 WORK: Cost recovery work was completed in preparation for a suit to bring the PRP's insurers into the response action at the site. The removal action was expanded into a remedial action. After completion of a contracted Risk Assessment, a Remedial Investigation based on the investigation work completed to date was compiled. A Feasibility Study was initiated.

FOREST SERVICE
REGION SIX

FACILITY: **Dell Penta Cleanup, Deschutes National Forest**
Bend, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Old Forest Service fencepost-treatment site at a Forest work camp. The area involved is approximately 16 feet by 4 feet. The site was used for treatment for over 20 years ending in 1970. Contract for an assessment awarded and completed.

FY 2000 WORK: Used the Regional contract to award a contract for removal and final clean up. Work was delayed by winter weather and should be completed in the Spring of 2001.

FACILITY: **White King/Lucky Lass Inactive Uranium Mines,**
Listed on NPL as Fremont National Forest Uranium Mines (USDA),
Fremont National Forest
Lakeview, Oregon

STATUS: Docket. NPL site. This site was listed on the NPL, May 25, 1995.

NARRATIVE: The White King and Lucky Lass uranium mines operated from 1957 to 1961 and then intermittently to 1965. The majority of the mining used open-pit techniques. Water in the White King pit is elevated above EPA water quality standards for heavy metals and radionuclides. More than one million cubic yards of stockpiled contaminated materials consisting of overburden also contain elevated levels of hazardous substances. Surface water and groundwater sources are also at risk. The larger White King Mine is located on both private land and National Forest System land. The Lucky Lass Mine is located on National Forest System land.

In April 1995, the PRP signed an Administrative Order on Consent in which it agreed to perform the necessary work to complete a RI/FS. The Forest Service, the EPA, and the State of Oregon signed the Administrative Order on Consent as regulatory parties. The EPA and the Forest Service signed a Memorandum of Understanding in May 1995, outlining the procedure for coordinating the exercise of CERCLA authorities delegated to each agency. During the field season of 1995, the Forest Service implemented a time-critical removal action at the White King portion of the site to better control erosion, pending selection and implementation of permanent remedial action. The Forest Service conducted substantial investigations at the site before the PRP agreed to complete the Remedial Investigation/ Feasibility Study (RI/FS). During the RI/FS process, the Forest Service participated in

oversight of the PRP's work, both directly and through a Forest Service contractor. During the 1996 field season, the PRP completed additional field investigations to meet the goal of completing the RI/FS in 1997. Fieldwork on the RI began in 1995 and the RI/FS was finalized in August 1999. Before finalization of the RI/FS, the PRP conducted a study to test the ability to neutralize the White King pond in 1998 with some follow-up work in 1999. It appears that neutralization can be effective and a relatively low cost option for raising the pH in the pond. The Proposed Plan was released on October 1, 1999. It calls for consolidation and capping of two stockpiles at the White King Mine area, neutralization of the White King pond, and removal of some soils from the Lucky Lass stockpile or adjacent areas to be consolidated with the White King stockpile.

FY 2000 WORK: A number of comments on the Proposed Plan were received from the PRP, thus necessitating an extensive analysis of those comments and a preparation of a responsiveness summary. Work on a draft ROD was begun, with a final ROD anticipated in 2001.

FACILITY: **Lakeview Retardant Base, Fremont National Forest**
Lakeview, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Lakeview Retardant Base, located at the southern end of the Lakeview Airport, is a leased site and has been operated by the Forest Service and BLM for approximately 20 years. The base uses include storage and supply of fire retardant for planes. Fire retardant used at the site typically contained phosphate, ammonia, nitrate, borate, bentonite, sodium ferrocyanide (a corrosion inhibitor added to prevent damage to aircraft), and dye. Other chemical uses include aviation fuel, diesel, and gasoline. Completed drilling of four bore holes in December, 1998. Testing confirmed elevated levels of metals and nutrients in the soil and groundwater. Anticipate migration of contaminants both laterally and vertically.

FY 2000 WORK: Additional monitoring wells were installed on the facility and sampled for cyanide and metals as well as for compounds associated with the retardant used at the base in FY 2000. Sediment and soil samples were obtained and sampled for the same constituents of concern. Elevated levels of cyanide and arsenic were discovered in the groundwater. The Forest is currently preparing a contract modification to perform additional testing to determine the extent and/or the actual levels of cyanide and arsenic in the water. Testing methods have been revised to better determine the probability of free cyanide and arsenic in the groundwater.

FACILITY: **Silverlake Penta Site, Fremont National Forest**
Silverlake, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The site contains soil-contamination as a result of an old pentachlorophenol post-treatment operation. It is located on the Silverlake Ranger Station compound. Investigation and removal of some contaminated material was completed. Approximately 60 tons of contaminated soil was removed. Data gaps required further testing in 1998 to determine the presence of dioxins. In 1999, a risk-based assessment was prepared to address the issue of dioxins.

FY 2000 WORK: The site was capped and all site plans were upgraded showing the excavation restrictions in the area. The proposed remedy has been approved by Oregon DEQ. No further work is planned at this site.

FACILITY: **Angel Mine, Fremont National Forest**
Lakeview, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This is an old abandoned mercury mine. A PA was completed in 1996. The site was divided into two separate projects. One is the mine site and the other is the 20 miles of road impacted by the spreading of rock from the mine site. After further testing and analysis, EPA issued a "no further action recommendation" and Oregon DEQ is supporting the Forest Service recommendation to gate the roads to prevent access to the site. It appears that the site does not contribute any contaminants to groundwater nor is there any movement of contaminated materials off-site.

FY 2000 WORK: At the request of Oregon DEQ, additional stream sampling was conducted and completed to determine chronic levels of mercury in the water. A report of the findings shows that levels of mercury compounds are below the freshwater chronic levels for fisheries. The report and a letter have been sent to Oregon DEQ. The Forest Service anticipates concurrence from DEQ that no further work is necessary at this site.

FACILITY: **Cashman Mill Site Cleanup, Mt Baker-Snoqualmie National Forest, Mountlake Terrace, Washington**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Several carloads of flue dust with high arsenic content were hauled from a NPL site and disposed of at the mill site. Viable PRPs were identified. In 1997, approximately 1,900 tons of flue dust and adjacent contaminated soils were removed from the site by a PRP, under a CERCLA Section 106 UAO, and disposed of at a RCRA Subtitle C facility in Grassy Mountain, Utah. A Site Investigation (SI) work plan was developed and implemented in December 1998. The SI report was completed in September 1999. The SI indicates migration of contaminants into the soil and groundwater, as well as uncovered material containing high arsenic concentrations. The SI determined that mineral-bearing residue (2,000 Tons) and ore stockpiles (1,000 Tons) have metal concentrations considerably higher than the site's natural background. Elevated concentrations of metals and the existence of visible precipitates suggest that Pond 2 has also received process water/waste.

FY 2000 WORK: A contract for an EE/CA was awarded. A final EE/CA should be delivered to the Forest Service in FY 2001. Negotiations with the PRP are continuing.

FACILITY: **Motherlode Mine, Ochoco National Forest**
Prineville, Oregon

STATUS: Docket. Non-NPL. (Listed on the August 1990, docket). The PA and SI are complete. Hazard Ranking System scoring has not been completed by the EPA.

NARRATIVE: The site is an old mercury mine where mercury may have leached into the soil and groundwater and caused pollution. Vegetation in the area is dead from the suspected contamination. The PA was completed and sent to the EPA in 1991. No work was completed in 1992 as the Forest Service waited for the EPA to reply on the PA. The EPA responded in September 1993 that additional soil sampling data was needed to complete the evaluation of the facility. In 1994, additional soil samples were collected and analyzed, and the data sent to the EPA. In 1995, at the request of the EPA, data on recreational fishing in Canyon Creek below the mine site were collected along with fish tissue samples. The fish tissues contained significant levels of mercury (0.5 mg/kg). A PRP search was performed, and no viable PRPs were identified. The decision was made to conduct a non-time-critical removal action. A contract for the EE/CA for the removal action was awarded in 1996.

The EE/CA was completed in 1999 and the Removal Action contract was awarded in 1999. The contaminated soils were treated on site and the non-vegetated soils were re-contoured and vegetated to minimize soil erosion.

FY 2000 WORK: The removal action was completed in 2000. Mercury contaminated soils exceeding the cleanup level of 500 mg/kg (225 cubic yards) were placed in the open pit and treated on-site. Low-level Mercury containing soils (7,000 cubic yards of unvegetated, low pH soil) were removed from the surface, placed in the open pit on top of the treated soil, and covered with drain rock and 2 feet of topsoil. Monitoring of mine seeps and shallow groundwater related to the mine adits is ongoing.

FACILITY: **Blue Ledge Copper Mine, Rogue River National Forest**
Copper Butte, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Blue Ledge Mine (private land) was a significant copper producer during the early 1900's. There are over 15,000 feet of drifts, stopes and shafts extending 800 feet vertically and 2,000 feet horizontally. Over the last 75 years acid mine drainage and erosion runoff from the mine dumps has caused the demise of aquatic life along four miles of nearby Joe Creek. Toxic concentrations of copper, cadmium, and zinc are present with mine waters being discharged at a pH of 3.1. Extensive metal oxide encrustations and cementing of stream substrate has caused obliteration of fisheries spawning and rearing habitat. A preliminary assessment was proposed during 1998, but was subsequently deferred pending consultation with and involvement of the State of California and EPA. The California North Coast Regional Water Quality Board has conducted a field review and concurs with the adverse impacts, but has not become financially involved.

FY 2000 WORK: Initial NRDA sampling of water quality, fish, and macro invertebrates was conducted in 2000. Quarterly sampling and testing will continue in 2001.

FACILITY: **Medford Service Center, Rogue River National Forest**
Medford, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Rogue River National Forest has maintained a warehouse and vehicle service center in Medford since 1935. There are currently plans to sell the site and move to another location in Medford. In preparation for a sale, a Phase 1 Environmental Site Assessment was conducted to determine the environmental health of the site as a result of its historical use.

A Forest Service contractor performed a PA in 1999. It was found that three

of four underground fuel and waste oil storage tanks were leaking at the time of their removal in 1988. Vehicle wash areas had discharged untreated water on the site. Bulk storage of fuels, lubricants, chemical and hydraulic fluids had occurred. Hydraulic fluid leaked into the soils and groundwater at the site. In addition, the site may be impacted from four leaking underground storage tanks located approximately ½ mile up gradient.

FY 2000 WORK: Geoprobe work and continuous soil and water sampling was conducted in 2000. All tests concluded that no further work is needed at this site. No further action is planned at this site.

FACILITY: **Cornucopia Mine, Wallowa-Whitman National Forest**
Halfway, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Cornucopia Mine, located twelve miles north of Halfway, Oregon, was an underground gold producer, which operated intermittently from 1880 to 1940. The ore processing methods used over the years included flotation, mercury amalgamation, and the use of cyanide in a leaching process. The tailings from the mill were deposited in two impoundments along Pine Creek. In 1979, United Nuclear (now owned by General Electric) purchased the property to evaluate its potential for resuming economic mining. The conclusions were negative. Approximately 1/3 of the tailings are located on National Forest System lands.

A Forest Service trailhead had been erected on the lower tailings impoundment (on private land) for a trail that accessed the Eagle Cap Wilderness. In 1990, the Wallowa Whitman National Forest conducted a brief sampling event to determine the presence of any deleterious substances in the tailings. Elevated arsenic and lead were indicated in these samples. The Forest Service subsequently moved the trailhead off-site. In 1999, a Site Characterization and Risk Analysis were conducted to more thoroughly evaluate the tailings impoundments. The Oregon Department of Environmental Quality (DEQ) was also involved in this analysis.

FY 2000 WORK: The results of the 1999 Risk Analysis were that both tailings impoundments exceed Oregon DEQ standards for high arsenic. The Forest Service and GE are currently working with Oregon DEQ to determine appropriate means to stabilize the impoundments.

FACILITY: **Temperance Creek Cleanup, Wallowa-Whitman National Forest Enterprise, Oregon**

STATUS: Non-Docket. Non-NPL

NARRATIVE: This site was an active sheep ranch prior to Forest Service acquisition in 1976. Ranch debris and the site were inventoried in 1996. Oil stained soil around the gashouse was investigated. A preliminary assessment was conducted in 1997 and found pesticide contaminated soils. In 1998 a partial soil removal was completed. In 1999 a final assessment and testing revealed clean up was close to State criteria.

FY 2000 WORK: Oregon DEQ reviewed the site and concluded that no further work is required at this site.

FACILITY: **Holden Mine Tailing Piles, Wenatchee National Forest Holden, Washington**

STATUS: Docket. Non-NPL. (Listed on the February 1988, docket). Forest Service has completed some removal actions. Based on SI data collected by the Forest Service in 1994, EPA re-ranked the site under the revised HRS. The site scores high enough for the NPL but the State of Washington has not requested NPL listing and EPA has no current plans to place the site on the NPL.

NARRATIVE: During operation (1938 to 1957) about 57 miles of underground mine workings were developed. About 8.5 million tons of mill tailings from copper, zinc, gold, and silver mining operations were placed on National Forest System lands near Railroad Creek, covering approximately 90 acres. Several large piles of waste rock removed from the mine are located near the mine portal and at various locations throughout the site bringing the total area of disturbance to approximately 120 acres. During the period 1988 to 1992, the Forest Service conducted an interim action at the Holden Mine at a cost of $3.2 million that reduced erosion of the tailings piles by installing stream bank protection, rerouting drainage, and covering the tailings piles with gravel, which also reduced dust generation and facilitated initial revegetation. Work completed in 1994 included collection of EPA-directed SI data; monitoring of water, fish tissue, vegetation, and air; and discussions with the PRPs. In 1995, the Department of the Interior (Bureau of Mines) began a characterization study to determine how leachate continues to enter Railroad Creek, causing streambed cementation and accompanying loss of fish habitat.

In 1996, Alumet (now known as Intalco) responded to the Department of Justice as the PRP for the Holden Mine Site. Intalco hired a consultant to

conduct a data summary of the site as a first step toward a RI/FS investigation. The Forest Service hired an oversight contractor to review and comment on the data summary from the PRP. Negotiations were begun between Intalco and the Forest Service, EPA and Washington Department of Ecology (Agencies) responsible to ensure remediation of this site.

In the spring of 1997, as negotiations with the PRP on an Administrative Order on Consent (AOC) were in progress, the PRP began gathering site RI characterization data under oversight of the Agencies. On April 11, 1998, Intalco signed an Administrative Order on Consent (AOC) in which it agreed to perform the necessary work to complete an RI/FS, including an injury determination and other appropriate natural resource damage assessment activities. The Forest Service, EPA and the Washington State Department of Ecology signed the AOC as regulatory parties. A Memorandum of Understanding (dated March 24, 1998) among the Agencies designates the Forest Service as lead agency directing performance of the RI/FS. In conjunction with the cleanup study, the Forest Service, as lead Natural Resource Trustee, is also directing natural resource damage assessment activities at the site under CERCLA. In August 1998, the Forest Service reached settlement with the PRP for recovery of $3.1 million of past Forest Service costs at this site.

A Draft Final RI Report was delivered to the Agencies for review in July 1999. Also during 1999, the initial stages of the FS began, which primarily involved screening of cleanup technologies.

FY 2000 WORK: As part of the FS, the major work conducted in 2000 involved Intalco re-entering the 1500 level portal of the Holden Mine for purposes of assessing conditions within the mine workings that will assist the agencies in evaluating various proposed technologies and alternatives in the FS. The Agencies also anticipated receiving Intalco's response to the Agencies' detailed comments on the Draft Final RI Report during FY 2000. However, that response document was not delivered to the Agencies until December 2000. We anticipate finalization of the RI during FY 2001, as well as continuation of FS work at the site.

FACILITY: **Lower Winthrop Compound, Conconully & Early Winters Work Centers, Okanogan National Forest, Winthrop, Washington**

STATUS: Docket. Non-NPL.

NARRATIVE: These sites are administrative compounds formerly used for Forest activities that released or threatened a release of various hazardous substances. Past activities included storage, use leakage, spillage, and disposal of hazardous substances from Forest Service activities and dispensing of fuel and heating

oil from underground storage tanks.

FY 2000 WORK: A Forest Service contractor was utilized to identify, remove and dispose of the hazardous substances in assorted labeled and unlabeled barrels and closed containers. Soil contamination at the Lower Winthrop Compound was cleaned up. No further work is planned at these sites.

FACILITY: **North Cascades Smokejumper Base, Tonasket & Twisp Ranger Station Compounds, Okanogan National Forest, Twisp, Washington**

STATUS: Docket. Non-NPL.

NARRATIVE: These sites are active Forest Administrative sites. Past activities released or threatened a release of various hazardous substances. Past activities included storage, use leakage, spillage, and disposal of hazardous substances from Forest Service activities and dispensing of fuel and heating oil from underground storage tanks.

FY 2000 WORK: A Forest Service contractor was utilized to identify, remove and dispose of the hazardous substances in assorted labeled and unlabeled barrels and closed containers. Soil contamination at the North Cascades Smokejumper Base was cleaned up. No further work is planned at these sites.

FACILITY: **Sweet Home Work Center, Willamette National Forest**
Sweet Home, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: In 1992 the Oregon Health Division detected solvents in a number of water supply wells in Sweet Home. In 1994-1995, the Oregon Department of Environmental Quality (ODEQ) sampled private wells and preformed preliminary assessments at several sites. In 1996, the EPA performed a removal action at Ridgeway Logging to eliminate a suspected primary soil and groundwater contaminant, PCE. In 1995, the Forest Service completed a Removal Assessment of the work center site to determine the presence and extent of possible TCA contamination that might have come from abandoned asphalt testing laboratory. In 1999, ODEQ completed an area-wide site investigative report identifying contaminants of concern (including TCA) and three other possible sources of contaminations including the Forest Service Work Center. ODEQ began a Risk Assessment Report. ODEQ continues to monitor the area and has completed the ODEQ sponsored Area-Wide Investigative Report.

FY 2000 WORK: ODEQ has completed a risk assessment and anticipates publishing a Risk

Assessment Document and Feasibility Study Document in 2001. No additional monitoring wells or treatment are planned since the City of Sweet Home ordinance requires residences to hook up to city water. DEQ plans to continue sampling and testing on a less frequent basis.

FOREST SERVICE
REGION EIGHT

FACILITY: **Gulfport Laboratory and Harrison Experimental Forest Southern Research Station, Mississippi**

STATUS: Non-Docket. Non-NPL. PA's were completed for both sites.

NARRATIVE: A retired Forest Service scientist reported disposal of pesticides at two sites in the Southern Research Station. A CERCLA response was initiated in February 1996. Removal Action project specifications were completed in September 1996. A removal action was initiated in the third quarter of 1997. Testing and removals continued into 1999. Closure of both sites achieved in 1999.

FY 2000 WORK: No significant activity in FY 2000. The property is scheduled for transfer and sampling will need to be conducted in 2001 to verify no further actions are needed.

FACILITY: **Graham County Sanitary Landfill, Nantahala National Forest Robbinsville, North Carolina**

STATUS: Docket. Non-NPL. (Listed on the February 1988, docket). A PA was sent to the EPA in 1985. A SI report was submitted to the EPA in February 1994.

NARRATIVE: This landfill was owned and operated by Graham County. The special use permit for operating a landfill was terminated in December 1993. The landfill contains furniture-manufacturing and varnish wastes. The manufacturer discontinued disposal of manufacturing wastes into the landfill in 1980. The Forest Service completed PA in 1985. The EPA requested a Site Investigation. The SI fieldwork was started in December 1992 and was completed and submitted to EPA in 1994. The Forest Service has not yet received a response from the EPA. Landfill operations were terminated in April 1994. The site was officially closed out in 1996.

FY 2000 WORK: Graham County continues to meet State requirements for inspection and water quality monitoring under NCDHS permit 38-01. As of March 2001, the County is in compliance with the monitoring requirements. The monitoring frequency may be reduced if the favorable results continue.

FACILITY: **Swain County Sanitary Landfill, Nantahala National Forest**
Bryson City, North Carolina.

STATUS: Docket. Non-NPL. (Listed on the February 1988, docket). A PA was sent to the EPA in 1984. A SI report was submitted to the EPA in February 1994.

NARRATIVE: This landfill is operated by Swain County under a special-use authorization from the Forest Service. The landfill contains furniture-manufacturing and varnish wastes. The manufacturer discontinued disposal of manufacturing wastes into the landfill in 1976. The Forest Service completed PA in 1984. The EPA requested a Site Investigation. The SI fieldwork was started in December 1992 and was completed and submitted to EPA in 1994. The Forest Service has not yet received a response from the EPA.

FY 2000 WORK: The landfill continues to accept demolition debris under a Forest Service special-use permit. Swain County continues to meet State requirements for inspection and water quality monitoring under NCDHS permit 87-01.

FACILITY: **Appalachian Smelting and Refining Company Battery Casing Dump**
Watauga District, Cherokee National Forest
Bristol, Tennessee

STATUS: Docket. Non-NPL.

NARRATIVE: A limited PA/SI was prepared and submitted to the EPA by the Tennessee Department of Environmental Conservation- Superfund in September 1994. Abandoned 50-year-old, lead-acid battery-casing dump sites from a lead smelter manufacturer were discovered by the State of Tennessee on lands managed by the Forest Service, the Tennessee Valley Authority (TVA), and on private land. The dumpsites are located on the edge of South Holston Reservoir, a public water supply. The TVA and the Forest Service jointly performed additional surveying and testing. The Forest Service initiated a PRP search in July 1995 and completed it in December 1995. The Removal Site Evaluation was completed in September 1996. Removal Action project specifications were initiated in September 1996. Sites 1 and 2, on TVA lands, were completed in 1998.

FY 2000: Various preparatory tasks were completed during FY 2000 including the development of an interagency agreement, meetings with Federal and State regulators, construction of access roads, and completion of removal planning documents. The removal action for Site 3 started in October and was completed in December 2000. Approximately 2,600 tons of waste material was removed and disposed at an appropriate facility.

FACILITY: **Olustee Office Pesticide Site, Olustee National Forest**
Olustee, Florida

STATUS: Non-Docket. Non-NPL. National Response Center was notified of possible release in September 1991.

NARRATIVE: Routine onsite excavation in September 1991 uncovered chlordane contamination. A CERCLA response was initiated in February 1992. A Removal Evaluation Report was completed in 1994 and was amended in 1995. A removal action was completed in 1998. Monitoring wells were then installed and scheduled sampling was accomplished.

FY 2000 WORK: The State approved site closure and the monitoring wells were removed in 2000.

FOREST SERVICE
REGION NINE

FACILITY: **Midewin National Tallgrass Prairie**
Wilmington, Illinois

STATUS: Docket. NPL Site where the Army is the lead agency. Formulation of revised recommended clean up levels by an interagency Management Group is underway, which will lead to a revised Record of Decision for USDA lands scheduled for FY 2002.

NARRATIVE: The Forest Service has acquired large portions of the former Joliet Army Ammunitions Plant (JOAAP) facility for development of the Midewin National Tallgrass Prairie (NTP) through Congressional action. Additional property would be transferred once clean up is completed on those lands. An interim Record of Decision (ROD) for lands associated with the JOAAP was signed in October 1998. Human Health and Ecological Risk Assessment Teams and a Management Group were established to recommend final remediation goals to the decision makers (USEPA, Illinois EPA and Army).

In FY 1998, confirmatory sampling was conducted on the lands already transferred to the Midewin NTP. This was done because information found in the administrative record indicated that there were still some areas of concern on this land. Most land was found uncontaminated and the administrative record information concerning arsenic use on the fence lines was confirmed. The results of the FY 1998, confirmatory sampling led to further investigation of arsenic along fencelines and in railroad ballast in FY 1999-2000.

In early 1999, preliminary meetings were held to develop the details of the Risk Assessment Groups and Management Group. In April 1999, the first meetings of the Ecological and Human Health Groups were held to begin the development of recommendations. Meetings continued through FY 1999.

FY 2000 WORK: The meetings of the Ecological and Human Health Groups continued approximately monthly through September 2000, when the Risk Assessment Teams presented final reports to the Management Group.

Additional investigation for arsenic along fencelines and in railroad ballast occurred in 2000. Railroad ballast was also quantified and evaluated as a structural fill material. In June 2000 a Time Critical Removal Action was performed to remove arsenic contamination from a fenceline, which bordered land that the Forest Service was trying to obtain from the Army for construction of an administrative site.

In September 2000, sampling of sediments was performed at Kemery and Doyle Lakes, and wetlands or drainages that may have received contaminants in the past.

FACILITY: **Baldwin Administration Site, Huron-Manistee National Forest, Baldwin, Michigan**

STATUS: Docket. Non-NPL. Non-time critical removal action is on going.

NARRATIVE: The facility has been in operation since approximately 1936, and is currently an active ranger station. Historical site activities included tree harvesting, fire control, wood preserving, and vehicle and equipment maintenance and repair. Materials stored at the site have reportedly included petroleum products, paints, pesticides, herbicides, and wood preservatives.

In 1997, a PA was completed. The PA concluded that site activities appear to have impacted soil and groundwater at the site in the vicinity of the drywells and a settling basin. The extent of impact was not determined.

In 1998, a removal site investigation was conducted. Surface soil was found to exceed generic residential direct contact criteria for lead. This appeared to be associated with paint chips on the ground along some of the buildings. Localized groundwater contamination was also detected onsite in a limited area near the vicinity of the settling basin and drywells. The likely source of the contaminant plume appeared to be the historical operation of the settling basin and associated drywell system.

In FY 1999, an Engineering Evaluation and Cost Analysis (EE/CA) was completed. A removal action was initiated for the removal of lead contaminated surface soils, the drywell, settling basin and surrounding soils. Natural attenuation and groundwater monitoring was planned to address groundwater impacts. During Non-Time-Critical Removal Action (NTCRA) activities, free product was discovered on the top of the water table directly downgradient of the drywell and settling basin.

FY 2000 WORK: In FY 2000, a second NTCRA was completed to address free product that was discovered on-site. The latest round of groundwater sample results shows no exceedances of Michigan Part 201 health-based drinking water criteria, except for Iron and Manganese, which exceeded the aesthetic criteria. Additional groundwater monitoring is planned for FY 2001.

FACILITY: **East Tawas Warehouse, Huron-Manistee National Forest**
East Tawas, Michigan

STATUS: Non-Docket. Non-NPL. Investigation is still on going at this site.

NARRATIVE: The Site has been an active Forest Service facility since approximately 1925. The Forest Service is interested in exchanging the property. The site currently has three vacant buildings: two warehouses and an oil house. The site was historically used as a nursery (in conjunction with adjacent property), a gas station and maintenance shop for vehicles as well as a storage facility for field equipment and supplies. A limited soil and groundwater investigation was conducted at the site in 1997. Additional soil and groundwater sampling was conducted in 1999 and 2000. The Forest Service is currently negotiating with the Michigan Department of Environmental Quality (MDEQ) whether further investigation is needed.

FY 2000 WORK: Additional soil and groundwater sampling was conducted in FY 2000. Additional investigation may be required after further discussions with the MDEQ.

FACILITY: **Moran Work Center, Hiawatha National Forest**
Moran, Michigan

STATUS: Non-Docket. Non-NPL. A PA was sent to US EPA in 1993. An expanded PA was sent to EPA and the Michigan Department of Environmental Quality (MDEQ) in 1997. No further work is planned.

NARRATIVE: A PA was completed in 1993. Several areas of concern were identified in this PA. These included a maintenance area consisting of bare ground (approximately 2,500 square feet) where heavy equipment was serviced in the past. There is a storage building with a very deteriorated and cracked concrete floor where drums and cans of oil, fuels, and solvents were stored. Several partially filled 55-gallon drums with unidentified contents were stored outside of the building. The Moran Work Center is located directly in the residential area of the community of Moran.

An expanded PA with soil and groundwater sampling was completed. The results of the investigation concluded that there were no exceedances of the relevant Michigan Part 201 health based soil and drinking water criteria. The report was submitted to the Michigan Department of environmental Quality (MDEQ) and US EPA and no response was received. No further work was planned.

FY 2000 WORK: None. Additional work needed to properly abandon monitoring wells.

FACILITY: **Moran Landfill, Hiawatha National Forest**
Moran, Michigan

STATUS: Non-Docket. Non-NPL. A PA was sent to the EPA in 1993. An expanded PA was completed in 1997. No further work is planned.

NARRATIVE: This landfill was operated by Mackinac County and was obtained in a land exchange from the State of Michigan in 1980. Lands records indicate that this landfill, also known as Brevoort Township Dump, was closed by the State of Michigan. The site is estimated to cover about 5 acres. A PA was completed for this site and sent to the EPA in 1993.

In FY 1997, groundwater-monitoring wells were installed and an expanded PA was completed.

A second round of groundwater sampling was completed in FY 1998. The results of both groundwater-sampling events showed that only Iron and Manganese were being detected above Michigan's Part 201 drinking water criteria. The criteria for these metals are aesthetic based and the aquifer is not used for drinking water because it contains naturally high levels of other metals. For these reasons, no further work was planned. The reports were submitted to US EPA and the Michigan Department of Environmental Quality and no response was received.

FY 2000 WORK: None. Additional work needed to properly abandon monitoring wells.

FACILITY: **Munising Sanitary Landfill, Hiawatha National Forest**
Munising, Michigan

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A PA was sent to the EPA in October 1991. Action at the site has been conducted in compliance with State of Michigan solid waste management regulations. Groundwater and gas monitoring is on going.

NARRATIVE: This sanitary landfill began operation during the 1960's under a Forest Service special-use permit issued to the City of Munising for disposal of residential solid waste. The landfill is located on National Forest System lands in a sandy area and was constructed without a liner or clay barrier. The original site occupied approximately 30 acres. On December 31, 1990, the Forest Service closed the landfill. The landfill had not been properly capped and groundwater downgradient of the site had been impacted. A participating agreement for closure of the landfill was signed in July 1996 between the Forest Service and nine parties.

A contract for capping the landfill was awarded by the Munising Landfill Authority in December 1996. The landfill was certified closed by the State of Michigan on August 12, 1998. In addition to the existing 23 groundwater-monitoring wells, six additional monitoring wells were installed downgradient of the site at the property boundary and along Wetmore Lake. A hydro geological study was completed. Groundwater is venting to Wetmore Lake and the Forest Service manages the property up to Wetmore Lake. Iron and Manganese continue to be detected at high levels downgradient of the landfill. Tetrachloroethene was detected above Michigan's health based drinking criteria in one round of testing only. Groundwater monitoring is planned to continue at some level for a thirty-year period.

FY 2000 WORK: In FY 2000, groundwater monitoring continued and gas monitoring had been conducted. Iron and Manganese continue to be detected downgradient of the landfill at levels above health-based and aesthetic drinking water criteria. However, groundwater vents to Wetmore Lake downgradient of the site and no drinking water wells are located between the Landfill and Wetmore Lake.

Gas monitoring was conducted in FY 2000. Additional gas monitoring is planned for FY 2001 to determine whether methane gas is migrating from the landfill at levels of concern.

FACILITY: **Nahma Sanitary Landfill, Hiawatha National Forest**
Nahma, Michigan

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). No further work is anticipated, pending Michigan Department of Environmental Quality (MDEQ) concurrence.

NARRATIVE: The local government obtained a Forest Service special use permit for operation of the landfill. It was licensed as a modified dump by the State. The landfill ceased operation in 1989. The site is not capped or lined and is located in sandy soils. There is uncertainty as to past management and activities at the site, but it is believed that only domestic trash was placed in the landfill. Ten groundwater-monitoring wells with dedicated equipment were installed at the site in 1990. Groundwater samples were collected in 1991, 1993, 1998, and in the spring and fall of 1999. The PA report and preliminary Hazard Ranking System score were completed in 1993.

In FY 1998, groundwater samples were collected and analyzed for volatile organic compounds, semi-volatile organic compounds, metals, cyanide, polychlorinated biphenyls, and pesticides.

In FY 1999 two rounds of groundwater samples were collected. A surface water sample was collected downgradient of the site. Aluminum, iron, and manganese were the only target analytical parameters for which some positively reported concentrations consistently exceeded applicable Michigan Part 201 groundwater criteria in 1998 and 1999. These compounds were not detected at concentrations that present a risk to human health or the environment. No surface water target analytical parameters were reported at concentrations that exceeded applicable Michigan Part 31 surface water criteria. Based on these results, no further work was planned for the site. The reports and a letter stating that no further work was planned were sent to the MDEQ. To date, no response has been received.

FY 2000 WORK: None. Additional work needed to properly abandon monitoring wells.

FACILITY: **Bay Mills Sanitary Landfill, Hiawatha National Forest FR3076, Bay Mills, Michigan**

STATUS: Non-Docket. Non-NPL. The PA was sent to the EPA in 1993. Site investigation work is on going.

NARRATIVE: This historic dump was operated from approximately the 1940's to 1974. Indiscriminate dumping may have occurred after the dump was closed to the public in 1974. Records, such as a modified-dump license, indicate that the dump was operated by Superior Township and that the dump was referred to as Superior Township Dump. Forest Service special-use status for this site is unknown. It is a township dump with no liner and is not capped properly. The site is covered with soil, but is not an impermeable cap and is unlined. Operational information for the landfill indicates that domestic trash, white goods, junk cars, and demolition debris were disposed of at the site. Domestic trash was generally dumped in trenches at the site and was burned before being covered. Waste such as demolition debris, white goods, and junk cars were dumped in the ravine on the south side of the site. Groundwater flowing beneath the site discharges to the creek at the bottom of the ravine.

A PA and scoring were completed in 1993. An expanded PA that included groundwater, sediment, and soil sampling was completed in 1994. The report recommended further investigation in regard to groundwater and surface water because of insufficient data and because there is a perched groundwater zone that needs evaluation.

Groundwater samples were collected in 1998. In 1999, groundwater and surface water samples were collected. An additional monitoring well was

installed to intercept a perched groundwater zone. Metals concentrations in the surface water samples were detected below the Michigan Part 31 surface water criteria, concentrations of aluminum, iron, and manganese in groundwater samples exceeded the Michigan Part 201 drinking water criteria. The drinking water criteria for these metals are aesthetic criteria, rather than health based. Concentrations of barium, manganese, and mercury were detected above Michigan Part 201 groundwater surface water interface criteria.

FY 2000 WORK: Additional groundwater monitoring was completed in FY 2000. Impacts from the site will continue to be evaluated in FY 2001. An engineering evaluation and cost analysis is planned for FY 2002.

FACILITY: **Strongs Village Dump, Hiawatha National Forest**
Strongs Corner, Michigan

STATUS: Non-Docket. Non-NPL. Additional investigation is not currently planned.

NARRATIVE: Strongs Village Dump was operated for approximately 20-years and closed in the 1970's. Waste placed in the Dump is reported to have consisted mainly of household refuse. A PA was completed at Strongs Village Dump in 1998. During the PA groundwater-monitoring wells were installed and groundwater samples were collected. Additional groundwater sampling occurred in 1999 and 2000. Analytical groundwater data indicate that trace concentrations of semi-volatile organic compounds (SVOCs) and pesticides are well below all applicable Michigan Part 201 criteria. Aluminum was reported above Michigan Part 201 aesthetic drinking water criteria, however no potential threat to human heath or the environment is indicated by the reported concentrations of aluminum. Further groundwater monitoring does not appear to be necessary at this time. The report completed for the sampling done in FY 2000 will be submitted to the Michigan Department of Environmental Quality (MDEQ) in FY 2001.

FY 2000 WORK: In FY 2000, groundwater samples were collected from on-site monitoring wells and analyzed for metals, SVOCs, and pesticides. The report for this sampling event will be completed in FY 2001 and shared with the MDEQ. No further investigation is currently planned.

FACILITY: **Bay de Noc Township Dump, Hiawatha National Forest**
Bay de Noc, Michigan

STATUS: Non-Docket. Non-NPL. Site investigation is on going.

NARRATIVE: Bay de Noc Township Dump operated from approximately 1969, until it was closed in 1978. Bay de Noc Township operated the dump under a special use permit. Reportedly, the dump accepted only household refuse and had a monitored gate to restrict the use of the dump exclusively to Township residents. A PA was completed at the site in 1998. During the PA, three groundwater-monitoring wells were installed and groundwater samples were collected. Additional groundwater sampling occurred in 1999 and 2000. Based on the 1998 and 1999 sampling events, polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), pesticides, and cyanide did not appear to be of concern at the site, therefore FY 2000 samples were not analyzed for those parameters. Trace concentrations of volatile organic compounds (VOCs) have been reported in groundwater samples collected at the dump well below applicable Michigan Part 201 criteria. VOC concentrations do not appear to be of concern at the dump. Most metals reported in groundwater samples collected at the dump have been detected at concentrations below applicable Michigan Part 201 criteria. Aluminum, iron, magnesium, mercury, silver, and selenium have been reported at concentrations equal to or above an applicable Michigan Part 201 criterion. Surface water samples are planned for collection from the wetland to confirm/correlate groundwater sampling results. Additional groundwater monitoring is also planned.

FY 2000 WORK: In FY 2000, an additional groundwater monitoring well and piezometer were installed in order to refine the direction of groundwater flow and for an additional downgradient monitoring point. Samples were analyzed for VOCs and metals. Additional sampling is planned for FY 2001.

FACILITY: **Thunder Lake Dump, Hiawatha National Forest**
Inwood Township, Michigan

STATUS: Non-Docket. Non-NPL. Additional investigation is not currently planned.

NARRATIVE: Thunder Lake Dump was operated for approximately 20-years and closed in the 1970s. Waste placed in the dump was reported to have consisted mainly of household refuse. A PA was completed for the site in 1998. During the PA, groundwater-monitoring wells were installed and groundwater samples were collected. In 1999, an additional monitoring well was installed. Additional groundwater sampling was conducted in

1999 and 2000. Aluminum exceeded a Michigan Part 201 aesthetic drinking water standard in 1998 and 1999. No known drinking water receptors are downgradient or near the dump. Additional investigation is not currently planned for this site.

FY 2000 WORK: In FY 2000, groundwater samples were collected and analyzed for semi-volatile organic compounds (SVOCs) and metals. In FY 2001, the sampling report will be completed and shared with the Michigan Department of Environmental Quality.

FACILITY: **Horseshoe Bay Dump, Hiawatha National Forest**
St. Ignace Township, Michigan

STATUS: Non-Docket. Non-NPL. Additional investigation is not currently planned.

NARRATIVE: Horseshoe Bay Dump was operated for approximately 50-years and closed in the 1970's. Waste placed in the dump consisted mainly of household refuse. The dump was reportedly covered and closed by St. Ignace Township, under order of the Mackinac County Health Department about 1973. A PA was completed in 1998. Additional groundwater sampling was conducted in 1999 and 2000. One sample was collected from the adjacent wetland in 1998. Surface water was not observed during the 1999 and 2000 sampling events and therefore additional samples were not collected. Volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), pesticides, and cyanide were not positively detected in either the 1998 or the 1999 groundwater samples and do not appear to be of concern at the site. These compounds were not sampled for during the 2000 groundwater-monitoring event. Results from the 2000 groundwater sampling at the dump were consistent with the 1998 and 1999 analytical result for semi-volatile organic compounds (SVOCs) and metals. Trace detections of SVOCs were reported well below applicable Michigan Part 201 criteria. Aluminum and silver were detected above applicable Michigan Part 201 criteria; however, these compounds were detected at background levels. The report from sampling completed in FY 2000 is expected to be completed and shared with the MDEQ in FY 2001.

FY 2000 WORK: In FY 2000, groundwater sampling was conducted at on-site monitoring wells. Surface water sampling was planned, but did not occur because surface water was not present. Based on the results of the groundwater sampling events, additional investigation at the dump is not necessary.

FACILITY: **DDT Disposal Site, Ottawa National Forest**
Ironwood, Michigan

STATUS: Non-Docket. Non-NPL. The Forest Service completed a Removal Site Evaluation in 1995, a Time-Critical Removal Action in 1995, and a second Time-Critical Removal Action in 1996. In 1997, the Forest Service initiated a Non-Time-Critical Removal Action that included additional site characterization in September of 1997 and July of 1998. The draft Engineering Evaluation and Cost Analysis (EECA) was completed in May of 1999. Discussions with the Michigan Department of Environmental Quality (MDEQ) and EPA are on going.

NARRATIVE: In the mid-1960's, the Forest Service disposed of approximately twenty-three 55-gallon drums of a DDT spray solution in a sand borrow pit located in an isolated portion of the Forest. In 1991, during the HAZMAT inventory process, the Forest Service became aware of the incident. In 1991, ground-penetrating radar and electromagnetic surveys were performed in an unsuccessful attempt to locate the site. In 1994, a more extensive investigation was performed, and the site was located. A soil boring confirmed DDT and various volatile and semi-volatile organic compounds had migrated to the soil. The Forest notified the National Response Center on November 3, 1994. During the site evaluation process performed in July 1995, a test pit was dug and 5-drums were uncovered. The drums were badly deteriorated. A time-critical removal action was initiated and 23-drums, several sacks of pure DDT, and approximately 100 tons of soil were removed and incinerated off site in November 1995. In the fall of 1996, a second Time-Critical Removal Action was performed to remove remaining contaminated soils within reach of conventional excavation methods (down to 30 feet). Approximately 450 tons of contaminated soil were removed and incinerated, and a cap was installed over the site. In 1997, the Forest Service initiated a Non-Time-Critical Removal Action that included additional site characterization in September of 1997 and July of 1998. Solute transport modeling was conducted, which indicated that no contaminants would reach any receptors above their ecological threshold screening values.

In 1998, one round of water samples were collected from all of the monitoring wells. The Community Relation Plan was completed.

In 1999, a draft EE/CA was prepared. The document was then released to EPA, MDEQ and Lac Vieux Desert Indian Tribe. The Tribe asked for technical assistance from EPA for reviewing the draft EE/CA. The Forest Service extended EPA's review time, and comments were provided in August 1999.

FY 2000 WORK: In FY 2000, meetings were held with EPA, Lac Vieux Desert Indian Tribe, and the State of Michigan to discuss comments on the draft EECA. The Forest Service contracted for an independent technical review. As a result of the independent review and discussions with the interested parties, additional site characterization was initiated in FY 2000. Additional site characterization, monitoring, and completing the EE/CA are planned for FY 2001.

FACILITY: **Camp Gibbs Landfill, Ottawa National Forest**
Ironwood, Michigan

STATUS: Non-Docket. Non-NPL. PA was completed in FY 1993. Further investigation is planned.

NARRATIVE: The Forest Service and others used Camp Gibbs Dump between 1930 and 1960. Camp Gibbs was a previous Civilian Conservation Corps Camp located on National Forest System lands. It appears that the dump was also used by the State of Michigan when they operated the camp for transient housing around the mid-1950's. The site was first investigated in FY 1992 under the Forest inventory program. In FY 1993, a PA produced a site score of 50. In FY 1994, an expanded PA was performed; three monitoring wells were installed, soil borings were collected, and surface water and sediments in the adjacent wetlands were sampled. Several contaminants at low levels were identified: detected in groundwater were arsenic at 2 ppb (compared to State standard of 50 ppb) and zinc at 130 ppb (compared to State standard of 2400 ppb); detected in soils were arsenic at 1210 ppb (compared to State standard of 1000 ppb); antimony at 1,610,000 ppb (compared to State standard of 500 ppb); and lead at 39,400 ppb (compared to State standard of 80 ppb); DDT at 62 ppb is present in the sediments in the wetland. In 1997, the Forest Archaeologist completed a report that documented past use of the Camp and the role and responsibilities of the Department of Army in operating the Camp during the time frame the Dump was in use. Based on the report, the Department of Army and State of Michigan may be Potentially Responsible Parties (PRPs).

FY 2000 WORK: No additional work has been performed at the Site. Additional sampling is planned for FY 2001 and an EE/CA is now planned for FY 2002.

FACILITY: **Duncan Township Landfill, Ottawa National Forest**
Ironwood, Michigan

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). PA was completed and submitted to the EPA in 1993. A Non-Time-Critical

Removal Action (NTCRA) was initiated and an EE/CA was completed in 1999.

NARRATIVE: This landfill was operated by Duncan Township between 1971 and 1990 under a special-use permit issued by the Forest Service. The landfill accepted approximately 390 tons per year of waste. The landfill contains mainly rural community waste from such sources as households, sawmills, logging operations, and farms. The landfill size is approximately 6 acres. Documentation exists indicating that the landfill in the past accepted 20-drums of friable asbestos and 200-400 cubic yards of gasoline-contaminated soils. A groundwater monitoring well system was completed in September 1990. Four rounds of groundwater sampling were completed between 1990 and 1994, two by the Forest Service and two by the State of Michigan. Although several volatile organic compounds are present in the groundwater, none appear to be above the applicable Michigan Part 201 Drinking Water Criteria. Some of the volatile organic compounds and their concentrations are trichlorofluoromethane (8 ppb), dichlorofluoromethane (3 ppb), and 1,1,1-trichloroethane (6 ppb). Although hazardous substances are at minimal levels, physical parameters such as specific conductance, alkalinity, chloride in water, dissolved sodium, and others indicate that leachate is being generated by the landfill and affecting the groundwater. An ecological risk assessment performed as part of the EE/CA identified manganese concentrations in the surface water at levels high enough to be harmful to certain aquatic invertebrates. Also copper levels in the wells located near the wetlands are high enough to be of a concern with regards to certain wetland plant species. There is no cap on the landfill; therefore, there are no barriers to limit leachate generation, which is estimated to be over 500,000 gal/yr. The EE/CA recommended capping the landfill, long term monitoring and maintenance of the Site and administrative land use controls to restrict future use.

Sampling from all the site wells was performed in July and October of 1998. Sample results indicated that chromium, iron, manganese, and nickel exceed the applicable Michigan Part 201 drinking water criteria. Barium, copper, manganese, nickel and zinc exceeded either the screening criteria established by EPA or MI groundwater/surface water interface (GSI) values for ecological risks. CERCLA Section 104(e) letters were sent to PRPs and the Community Relations Plan was initiated.

In 1999, the human health and ecological risk assessments were completed. The human health risk assessment identified manganese as a potential human health concern through consumption of fish from Smith Creek. The ecological risk assessment concluded manganese and copper to be at concentrations of ecological concern. The Community Relations Plan was completed and implemented. An EE/CA was prepared, reviewed

and finalized. An Affordability Analysis was completed to evaluate the primary PRP and negotiations initiated. The EE/CA and Administrative Record were announced for public review. The Action Memorandum was completed. The design was completed for the landfill cap. The cap will consist of a sand gas venting layer, geosynthetic clay layer, a flexible membrane liner, drainage layer, protective cover layer, topsoil, and seeding and mulching. The Michigan Department of Environmental Quality has reviewed and approved the design.

FY 2000 WORK: In FY 2000, a contract was awarded for construction of the landfill cap. The construction is planned to occur in FY 2001.

FACILITY: **St. Regis Penta Site, Chippewa National Forest**
Cass Lake, Minnesota

STATUS: The site is being evaluated for a possible Natural Resource Damage Assessment (NRDA) action.

NARRATIVE: The St. Regis facility was a wood preserving plant that used creosote, pentachlorophenol, and copper-chromium-arsenate. The facility operated from 1957-1985, and cleanup was initiated in 1986. The site, including three operable units, is a Superfund Site on the National Priorities List. Champion International is the responsible party for this site. National Forest System lands, managed by the Chippewa National Forest (NF) border the three operable units. Staff from the Chippewa NF is participating on the Biological Technical Assessment Group.

In 1999, the Leech Lake Tribe sought to initiate a Natural Resource Damage Action. The other Natural Resource Trustees besides Leech Lake Tribe include: Forest Service, Bureau of Indian Affairs and Fish and Wildlife Service, Minnesota Pollution Control Agency, and Minnesota Department of Natural Resources. At an initial meeting of the trustee representatives in March 1999, a timetable identifying possible actions and tentative dates was developed. In June 1999, a meeting between the natural resource trustees representatives, US-EPA Region V and Champion International was held in Minneapolis, Minnesota. The purposes of the meeting were for the Trustees to initiate contact with Champion and for all parties to dialogue on developing a working framework for future actions. In October 1999, a memorandum of understanding between all trustees and US EPA was signed.

FY 2000 WORK: A meeting of the agency heads for the Natural Resource Trustees was held in Minneapolis in February 2000. The trustees were briefed on the site and then discussed options for proceeding with a possible NRDA case. Additional sampling work by US-EPA is scheduled for Spring 2001.

Results will enable further assessment of effectiveness of current remediation work and help determine extent of damage to other natural resources.

FACILITY: **Ore Hill Mine, White Mountain National Forest**
Warren, New Hampshire

STATUS: Non-Docket. Non-NPL. Site investigation is on going.

NARRATIVE: The Ore Hill Mine was one of the largest mines in New Hampshire. The mine produced zinc, with copper, lead and silver as by-products. Ore Hill Mine had a history of off and on mining activity since the 1830's and the last documented mining activity occurred at the mine over 50 years ago. The Site currently includes waste rock piles; an area of regraded, covered and vegetated mine tailings; and remnants of foundations and equipment.

Sampling of surface water from on-site and off-site drainages occurred sporadically since 1972. Samples of surface water from Ore Hill Brook near the mine site have shown relatively low pH and relatively high concentrations of zinc, aluminum, copper and manganese. In 1984, the Forest Service reclaimed the site by rerouting surface drainage, leveling tailings piles, applying lime to the tailings and capping with topsoil. The results were positive, however recent data indicates that a significant threat to the environment remains. Therefore, the Forest Service plans to perform a removal action at the site.

FY 2000 WORK: In FY 2000, a PA was completed. A PRP search and site investigation work were initiated. Additional site investigation and site characterization is planned for FY 2001. An Engineering Evaluation and Cost Analysis is planned for FY 2002.

FACILITY: **Paya Lake Landfill, Chequamegon-Nicolet National Forest**
Lakewood, Wisconsin

STATUS: Docket. Non-NPL. A PA was completed in February 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Recommendations for further site investigation are being reviewed.

NARRATIVE: The landfill was operated, via permit from the Forest Service, for the disposal of municipal solid waste by the Township of Riverview from 1956 to 1974. The cleared site is about 1-acre in size, with disposal taking place on only about 0.5-acre. An expanded PA has been conducted per EPA direction. Investigation wells were installed in May 1995. Sampling

and testing of ground and surface water pathways followed. Parameters tested included volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics. Results showed high concentrations of iron and manganese in exceedance of the Wisconsin Department of Natural Resources (WDNR) enforcement standards but similar to the natural concentrations found in the upstream surface water samples. Results were reported to the EPA and the WDNR in August 1995.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results that exceeded State criteria included iron, manganese, and bis (2 ethylhexyl)phthalate. The preventive action limit (PAL) was exceeded for antimony (estimated value) and arsenic. Results were reported to WDNR and EPA.

Due to results above State standards in previous sampling rounds, in FY 1998, groundwater was sampled and tested for SVOCs, metals, and indicator parameters. Iron and manganese exceeded State criteria, but not at levels that would be considered a concern at this site. The PAL for antimony was exceeded but at an estimated value. Results were reported to WDNR and EPA.

No work was done in FY 1999.

FY 2000 WORK: In FY 2000, past results, site information, and pathways were assessed to determine what further specific investigation work may be needed at the site. Recommendations for further site investigation are being reviewed.

FACILITY: **Lakewood Sanitary Landfill, Chequamegon-Nicolet National Forest Lakewood, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). A PA was completed in 1993. An improved cap was constructed in 1996. Ongoing sampling has taken place 2-4 times per year since 1992. Currently sampling takes place semiannually per the Wisconsin Department of Natural Resources approved monitoring plan. (In January 2002, a report analyzing groundwater data is required.)

NARRATIVE: This landfill was operated for the disposal of residential solid waste by the townships of Lakewood, Riverview, and Doty and the Forest Service under a special-use permit from about 1975 to 1987. The site is about six acres in size. In 1991, preliminary work was done, including installing

observation wells and performing seismic and resistance tests. This was done to determine the locations, depths, and number of investigation wells required. An investigation well contract was awarded in March 1992. Preliminary sampling showed some volatile organic compounds. No formal response to the PA submittal has been received from either the EPA or the Wisconsin Department of Natural Resources (WDNR). However, in October 1992, the WDNR requested that a groundwater-monitoring plan be developed for the site. This was done, and approval was received in July 1992. Per the plan, the Forest Service conducted quarterly sampling and testing of groundwater based on the monitoring plan approval. In September 1995, a groundwater monitoring plan modification was issued by the WDNR, and sampling was changed to semiannually based on the plan modification. In addition, the WDNR required the Forest Service to submit a plan to cap the landfill (closure plan). This plan was submitted in October 1995 and approved by the WDNR. The landfill was capped in FY 1996, utilizing Forest Service funds and township funds. The improved cap consisted of a 24-inch silt soil cap, topsoil, seed, and mulch.

Currently, semiannual sampling of groundwater is being conducted as required by the WDNR (for at least 5-years after cap improvements were completed). This includes testing for iron, chloride, and indicator parameters semi-annually in addition to volatile organic compounds (VOCs) annually. This has occurred in FY 1996 to the present.

Since cap improvements were completed in 1996, the following parameters have exceeded WDNR groundwater quality standards (enforcement standards and/or preventive action limits): benzene, methylene chloride, tetrachloroethylene, trichloroethylene, vinyl chloride, chloromethane, and iron.

FY 2000 WORK: In FY 2000, semiannual groundwater monitoring was performed per the WDNR approved monitoring plan.

FACILITY: **Island Lake Landfill, Chequamegon-Nicolet National Forest Lakewood, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in March 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Recommendations for further site investigation are being reviewed.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the townships of Riverview and Doty from 1966 to 1973. Waste material is estimated to cover approximately 0.4 acre of the site. An expanded PA

was conducted per EPA direction. Three investigation wells were installed in May 1995. Sampling and testing of groundwater and surface water pathways followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were analyzed. Concentrations of iron and manganese exceeded Wisconsin Department of Natural Resources (WDNR) enforcement standards. Concentrations of analyzed inorganics were below the WDNR preventive action limits (PAL) or were not detected (except for antimony). No concentrations of VOCs, semi volatile organic compounds (SVOCs), or PCBs/pesticides were detected. Surface water results showed high iron levels directly downstream of the landfill. Concentrations of analyzed inorganics were similar to background levels or not detected. Carbon disulfide was the only detected VOC in surface water samples, and this can occur naturally. No concentrations of SVOCs or PCBs/pesticides were detected in surface water samples. Results were reported to the EPA and the WDNR in August 1995.

In FY 1997, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, and metals. After screening, results that exceeded State criteria included iron, manganese, and bis(2ethylhexyl)phthalate. Results were reported to WDNR and EPA.

In FY 1998, groundwater was sampled and tested for SVOCs & metals. Iron and manganese exceeded State criteria. Results were reported to WDNR and EPA. No work was done in FY 1999.

FY 2000 WORK: In FY 2000, past results, site information, and pathways were assessed to determine what further specific investigation work may be needed at the site. Recommendations for further site investigation are being reviewed.

FACILITY: **Phelps Landfill, Chequamegon-Nicolet National Forest**
Phelps, Wisconsin

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in 1993. An expanded PA was done in 1994. Further site evaluation of groundwater was done in 1996, 1997, and 1998. Groundwater modeling was done in 2000. No further investigation is currently planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the township of Phelps under a special-use permit from 1946 to 1974. The site is estimated to be less than an acre in size. An expanded PA was conducted per EPA direction. Seven investigation wells were placed

around the site in June 1994. That year, groundwater sampling and testing was done for volatile organic compounds (VOCs) and inorganics. Results showed Wisconsin Department of Natural Resources (WDNR) preventive action limit (PAL) exceedances for lead, nitrogen (nitrate+nitrite), and sulfate. Iron and manganese exceeded WDNR enforcement standard criteria. The results were submitted to the EPA and the WDNR in December 1994.

The initial sampling prompted further sampling and testing in 1996. A total of 150 target compounds, comprised of VOCs, semi volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for. After screening of results, WDNR enforcement standards were exceeded for manganese and sulfate. Preventive action limit exceedances included bis(2-ethylhexyl)phthalate, beryllium, lead, and mercury, in one or more of the downgradient monitoring wells. Results were submitted to the EPA and the WDNR in November 1996.

In FY 1997, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, & metals. After screening, results that exceeded State criteria included manganese. Results exceeding State PAL criteria included methylene chloride, antimony, arsenic, and lead (but all at estimated values). Results were reported to WDNR and EPA.

In FY 1998, groundwater was sampled and tested for metals. Iron exceeded State criteria, but not at a level that would be considered a concern at this site. PAL exceedances occurred for chromium, manganese, and nickel. (Note: due to very low water level, only three of seven wells were capable of being sampled.) Results were reported to WDNR and EPA. No work was done in FY 1999.

FY 2000 WORK: In FY 2000, one dimensional solute transport modeling was done and pathways were assessed. It was concluded that the surface water pathways are incomplete because contaminants do not reach exposure points at levels of concern. Also, the groundwater pathway is not considered to be complete as there are no residential receptor wells downgradient of the site. No further environmental investigative work is planned -- the WDNR and EPA will be notified of this. Additional work is planned to properly abandon monitoring wells.

FACILITY: **Crooked Lake Landfill, Chequamegon-Nicolet National Forest**
Crooked Lake, Wisconsin

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in April 1993. An expanded PA was conducted in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Groundwater modeling was done in 2000. No further investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the townships of Riverview and Crooked Lake from 1949 to 1975. The site is less than an acre in size. An expanded PA was conducted per EPA direction. Four investigation wells were installed in February 1995. Sampling and testing of the groundwater pathway was accomplished in June 1995. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for. The detected concentrations of analyzed inorganics were below Wisconsin Department of Natural Resources (WDNR) groundwater quality standards. No concentrations of VOCs, SVOCs, or pesticides/PCBs were detected in the groundwater samples from the 4-wells. Test results were sent to the EPA and the WDNR in September 1995.

In FY 1997, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, & metals. After screening, results that exceeded State enforcement standard criteria included antimony. Arsenic exceeded the State preventive action limit. Results were reported to WDNR and EPA.

In FY 1998, due to the previous detections, groundwater was sampled and tested for metal. No State groundwater standards were exceeded. Results were reported to WDNR and EPA. No work was done in FY 1999.

FY 2000 WORK: In FY 2000, one dimensional solute transport modeling was done and pathways were assessed. It was concluded that groundwater and surface water pathways are incomplete because contaminants do not reach exposure points at levels of concern. No further environmental investigative work is planned. The WDNR and EPA will be notified of this. Additional work is planned to properly abandon monitoring wells.

FACILITY: **Pine Lake Landfill, Chequamegon-Nicolet National Forest**
Hiles, Wisconsin

STATUS: Docket. Non-NPL. A PA was completed in June 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Groundwater sampling was done downgradient of the site in 2000. No further investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the township of Hiles and the Forest Service under a special-use permit from 1962 until 1978. The site is about an acre in size, with disposal taking place on about 0.5-acre. An expanded PA was conducted per EPA direction. Investigation-wells were installed in May 1995. Sampling and testing of groundwater, surface water, and sediment pathways followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for. After screening, results indicated primarily low levels of inorganics in the groundwater, surface water, and sediments.

Groundwater: No VOCs or pesticides/PCBs were detected in the samples. One SVOC, bis(2-ethylhexyl)phthalate, was detected above the Wisconsin Department of Natural Resources (WDNR) preventative action limit (PAL) but at an estimated value. Groundwater inorganics exceeded the enforcement standard for iron and manganese and the PAL for arsenic.

Surface water: No VOCs, SVOC, or pesticides/PCBs were detected, in the surface water. Some inorganics were detected, but background levels were not established.

Sediment: No pesticides/PCBs were detected in the sediment. Five VOCs were detected in the sediment (acetone, methylene chloride, carbon disulfide, toluene, and 2-butanone); however, all but carbon disulfide are common laboratory contaminants. Two SVOCs, 4-methylphenol and phenol (estimated value), were detected in the sediment. Some metals were detected in the sediment. Results were reported to the EPA and the WDNR in August 1995.

In FY 1997, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, and metals. After screening, results that exceeded State enforcement standard criteria included iron and manganese. Benzene exceeded the State PAL in one well. Results were reported to WDNR and EPA.

In FY 1998, due to results above State standards in previous sampling rounds, groundwater was sampled and tested for VOCs and metals. Only

iron and manganese exceeded State groundwater enforcement standards, and there were no PAL exceedances. Results were reported to WDNR and EPA.

No work was done in FY 1999.

FY 2000 WORK: In FY 2000, groundwater sampling was done at a downgradient off-site well and previous groundwater, surface water, and sediment data was reviewed to assess exposure pathways to potential receptors and to determine whether further investigation work may be needed at the site. It was concluded that groundwater and surface water pathways are complete; however, the standards for contaminants of interest to drinking water are aesthetically rather than risk-based, so would not pose a risk to human health. Also, the contaminants potentially discharging to a nearby surface water body (Pine Lake) only marginally or potentially exceed conservative screening values. Transport of similar contaminants from the adjacent wetland is minimal considering the low concentrations found at a downgradient sampling location. Therefore, no further environmental investigative work is planned -- the WDNR and EPA will be notified of this. Additional work is planned to properly abandon monitoring wells.

FACILITY: **Silver Lake Landfill, Chequamegon-Nicolet National Forest**
Laona, Wisconsin

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in June 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Recommendations for further site investigation are being reviewed.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the township of Laona from 1967 until 1974. The site is about 2 acres in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Investigation wells were installed in May 1995. Sampling and testing of the groundwater pathway followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and metals were tested for. No VOCs, SVOCs, or pesticides/PCBs that could not be attributed to possible laboratory contamination were detected in any of the wells. (Although not screened out, bis(2-ethylhexyl)phthalate was detected at an estimated quantity). Metals detected over the Wisconsin Department of Natural Resources (WDNR) enforcement standards include iron and manganese, but not at levels considered to be harmful to human health. Metals detected over State preventive action limits (PAL) include chromium,

lead, and nickel. Results were reported to the EPA and the WDNR in August 1995.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, and metals. After screening, results that exceeded State enforcement standard criteria included only iron and manganese, and there were no PAL exceedances. The level of iron in one of the wells exceeded that which is commonly found in groundwater and could be considered a potential health risk. Results were reported to WDNR and EPA.

In FY 1998, due to results above State standards in previous sampling rounds, groundwater was sampled and tested for metals. Only iron and manganese exceeded State groundwater enforcement standards, and there were no PAL exceedances. The level of iron in one of the wells exceeded that which is commonly found in groundwater and could be considered a potential health risk. Results were reported to WDNR and EPA.

No work was done in FY 1999.

FY 2000 WORK: In FY 2000, past results, site information, and pathways were assessed to determine what further specific investigation work may be needed at the site. Recommendations to further address groundwater and surface water pathways are being reviewed at this time.

FACILITY: **Tipler Landfill, Chequamegon-Nicolet National Forest**
Tipler, Wisconsin

STATUS: Docket. Non-NPL. A PA was completed in December 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997. No further investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the township of Tipler under a special-use permit from 1959 until 1974. The site is about an acre in size, with disposal taking place on about 0.5 acre. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Four investigation wells were installed in May 1995. Sampling and testing of the groundwater pathway followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics, were tested for. Results showed no concentrations of VOCs, SVOCs, or pesticides/PCBs detected from the wells. Only manganese exceeded the Wisconsin

Department of Natural Resources (WDNR) enforcement standard and antimony exceeded the State preventive action limit (PAL). Results were reported to the EPA and the WDNR in September 1995.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, and metals. After screening, results that exceeded State criteria included only antimony (at an estimated level), and there were no PAL exceedances. Results were reported to WDNR and EPA.

No further environmental investigative work is planned -- the WDNR has been notified of this.

FY 2000 WORK: None. Additional work is planned to properly abandon monitoring wells.

FACILITY: **Butternut Lake Landfill, Chequamegon-Nicolet National Forest Eagle River, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 11, 1995, docket). A PA was completed in May 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. No further investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste for the Butternut Lake area under a special-use permit from 1960 until 1974. The site is estimated to be less than 1 acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Investigation wells were installed in May 1995. Sampling and testing of the groundwater pathway followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics, were tested for. Results showed no concentrations of VOCs, SVOCs, or pesticides/PCBs. Detected concentrations of analyzed metals, indicator parameters, and public health and welfare parameters were within the normal range of concentration. Only manganese exceeded the Wisconsin Department of Natural Resources (WDNR) enforcement standard, and antimony exceeded the State preventive action limit. No contamination was detected in the groundwater samples from the site. Results were reported to the EPA and the WDNR in September 1995.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was

done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, and metals. After screening, results showed no State enforcement standard criteria exceeded, and only manganese exceeded the preventive action limit. Results were reported to WDNR and EPA.

In FY 1998, due to results above State standards in previous sampling rounds, groundwater was sampled and tested for metals. There were no State enforcement standard exceedances. Exceedances of the State groundwater preventive action limits (PAL) occurred for manganese and cadmium (estimated level) – both only slightly above the PAL. Results were reported to WDNR and EPA.

No further environmental investigative work is planned -- the WDNR has been notified of this.

FY 2000 WORK: None. Additional work is planned to properly abandon monitoring wells.

FACILITY: **Binder Lake Landfill, Chequamegon-Nicolet National Forest Lakewood, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995 docket). A PA was completed in April 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997,1998 and 2000. Site evaluation work is on going.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Lakewood, under a Forest Service special-use permit, from 1949 to 1975. The site is just over an acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. Sampling and testing was done immediately following the well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and metals, were sampled for. After screening, the results showed that three metals (iron, lead, and manganese) are present at concentrations that exceed the Wisconsin Department of Natural Resources (WDNR) criteria. Arsenic, beryllium (estimated value), chromium, and nickel were identified at concentrations exceeding the preventive action limits (PAL). No groundwater samples exceeded the PAL or criteria for VOCs or pesticides/PCBS during the sampling round. Results of the analyses were reported to the EPA and the WDNR in April 1996.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, & metals. After screening, results showed that the criteria were exceeded for iron and manganese. There were no PAL exceedances. Results were reported to WDNR and EPA.

In FY 1998, due to results above State standards in previous sampling rounds, groundwater was sampled and tested for metals and indicator parameters. Only manganese exceeded the State groundwater criteria. There were no PAL exceedances. Results were reported to WDNR and EPA.

No work was done in FY 1999.

FY 2000 WORK: In FY 2000, a new downgradient well was installed and sampled. This information along with previous groundwater data was reviewed to assess pathways to potential receptors and to determine whether further investigation work may be needed at the site. It was concluded that the surface water pathways might be complete. The groundwater pathway is considered to be complete as several residential wells (receptor) exist downgradient of the site; however, the nearest potential residential well is approximately 800 feet from the site in the downgradient groundwater flow direction in one of the flow scenarios. After screening of all results and comparison to background levels, lead, iron, and manganese exceeded State enforcement standards. It was recommended these parameters be modeled to the off-site receptors. This work is being planned.

FACILITY: **County Highway T Landfill, Chequamegon-Nicolet National Forest Lakewood, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in January 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Recommendations for further site investigation are being reviewed.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Doty, under a Forest Service special-use permit, from 1956 to 1975. The site is estimated to be about an acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. Sampling and testing was done immediately following the well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs),

pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for. Results showed the Wisconsin Department of Natural Resources (WDNR) criteria were exceeded for iron and manganese in all wells and lead in one well. Results showed WDNR preventive action limits (PAL) were exceeded for lead (in remaining wells), arsenic, beryllium (estimated value), chromium, mercury, and nickel (estimated value). No samples exceeded State groundwater standards for VOCs or pesticides/ PCBs. Results of the analysis were reported to the EPA and the WDNR in April 1996.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, & metals. After screening, results showed exceedances of State criteria for iron, manganese, and bis (2-ethylhexyl)phthalate. Results were reported to WDNR and EPA.

In FY 1998, due to results above State standards in previous sampling rounds, groundwater was sampled and tested for SVOCs and metals. State criteria were exceeded for only iron and manganese. There were no PAL exceedances. Results were reported to WDNR and EPA. No work was done in FY 1999.

FY 2000 WORK: In FY 2000, past results, site information, and pathways were assessed to determine what further specific investigation work may be needed at the site. Recommendations for further site investigation are being reviewed at this time.

FACILITY: **Roberts Lake Landfill, Chequamegon-Nicolet National Forest Wabeno, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in May 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Recommendations for further site investigation are being reviewed.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Freedom, under a Forest Service special-use permit, from 1954 to 1974. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. Sampling and testing was done immediately following the well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and

metals, were tested for. Results indicate four metals (chromium, iron, lead, and manganese) are present at concentrations exceeding Wisconsin Department of Natural Resources (WDNR) criteria. Beryllium and thallium also exceeded levels but were detected at estimated values. Metals exceeding preventive action limits (PAL) include arsenic, barium, copper, and nickel. No samples exceeded State groundwater PAL or State criteria for VOCs or pesticides/PCBs. Results of the analysis were reported to the EPA and the WDNR in April 1996.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, and metals. After screening, results showed no exceedances of State criteria. PAL exceedances included only nitrogen (both as nitrate and as nitrite+nitrate). Results were reported to WDNR and EPA.

In FY 1998, due to results above State standards in previous sampling rounds, groundwater was sampled and tested for metals. After screening, results showed no exceedances of State criteria. PAL exceedances included only nitrogen (both as nitrate and as nitrite+nitrate). Results were reported to WDNR and EPA.

No work was done in FY 1999.

FY 2000 WORK: In FY 2000, past results, site information, and pathways were assessed to determine what further specific investigation work may be needed at the site. Recommendations for further site investigation are being reviewed at this time.

FACILITY: **Alvin East Landfill, Chequamegon-Nicolet National Forest**
Alvin, Wisconsin

STATUS: Docket. Non-NPL. (Listed on the April 11, 1995, docket). A PA was completed in December 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Surface water and sediment pathways were investigated in 2000 and groundwater modeling was done. No further investigation is planned.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Alvin, under a Forest Service special-use permit, from 1966 to 1975. The site is about an acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. A total of

150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for. Results showed little or no indication that the landfill has affected the concentrations of chemicals in the groundwater. There was a Wisconsin Department of Natural Resources (WDNR) criteria exceedance of antimony but in the upgradient well, and a slight exceedance of the criteria for cis-1,3-dichloropropene was detected at an estimated value. Preventive action limit (PAL) exceedances occurred for antimony (in the remaining wells), manganese, and mercury (but in the upgradient well only). Results of the sampling and testing were reported to the EPA and the WDNR in June 1996.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, and metals. After screening, results showed no exceedances of State criteria. A PAL exceedance occurred for only lead (but in the upgradient well at an estimated level). Results were reported to WDNR and EPA.

FY 1998, due to results above State standards in previous sampling rounds, groundwater was sampled and tested for metals. After screening, results showed no exceedances of State criteria or PAL criteria. Results were reported to WDNR and EPA.

No work was done in FY 1999.

FY 2000 WORK: In FY 2000, surface water and sediment sampling were collected from an adjacent wetland. Also, groundwater solute transport modeling was performed. This information along with previous groundwater data was reviewed to assess pathways to potential receptors and to determine whether further investigation work may be needed at the site. The investigation concluded that the surface water and sediment exceedances were minimal. Groundwater modeling showed contaminants are not being transported to off-site receptors at levels of concern.

No further environmental investigative work is planned -- the WDNR and EPA will be notified of this. Additional work is planned to properly abandon monitoring wells.

FACILITY: **Newald Landfill Site, Chequamegon-Nicolet National Forest Newald, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was submitted to the EPA and the Wisconsin Department of Natural Resources in December 1993. An expanded PA was done in 1995.

Further site evaluation of groundwater was done in 1997. No further investigation is planned.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Ross, under a Forest Service special-use permit, from 1960 to 1972. The site is estimated to be less than an acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for. Results showed no indication that the landfill has affected the concentrations of chemicals in groundwater. Iron, manganese, and antimony exceeded Wisconsin Department of Natural Resources (WDNR) criteria. Results of the analysis were reported to the EPA and the WDNR in June 1996.

In FY 1997, based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, and metals. After screening, results showed State criteria exceeded for only iron and manganese. Results were reported to WDNR and EPA.

No further environmental investigative work is planned -- the WDNR has been notified of this

FY 2000 WORK: None. Additional work is planned to properly abandon monitoring wells.

FACILITY: **Laona (Blackwell) Landfill, Chequamegon-Nicolet National Forest Blackwell, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). A PA was submitted to the EPA and the Wisconsin Department of Natural Resources in December 1992. Further site evaluation has been done from FY 1996 to the present. An engineering evaluation/cost analysis (EE/CA) is planned for FY 2001.

NARRATIVE: The landfill operated under a cooperation agreement by the Towns of Blackwell and Laona and the Forest Service (including Blackwell Job Corp Center) from the 1974 to 1983. There was also a special-use permit issued by the Forest Service to the Town of Blackwell. The site was used for the disposal of residential and recreational solid waste and is approximately three acres in size. Eight monitoring wells were placed around the site in June 1991. Water sampling was started in August 1991. Based on the results of the initial samples, more extensive testing was done in October 1991. The results of these tests were included in the PA report that was submitted to the regulatory agencies.

In FY 1996, a new control well was installed and sampling was done of all site investigative wells. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics, were tested for. After screening, results showed VOCs, including methylene chloride and vinyl chloride (estimated value) exceeding Wisconsin Department of Natural Resources (WDNR) criteria. Those exceeding only the preventive action limit (PAL) included tetrachloroethane, 1,2-dichloroethane, and benzene. Three semi volatile organic compounds were detected but disregarded as potential laboratory contamination based on EPA assessment guidance. For pesticides/PCBs, endosulfan sulfate was detected, but this parameter has no preventive action limit or enforcement standard value. Metals detected above the State criteria include arsenic, thallium, iron, and manganese. (Iron and manganese levels detected are high enough that they may be of concern). However, based on evaluation of the 1996 results, there is not a clearly established background-monitoring well, and it was recommended that an additional well be placed upgradient. The results of the 1996 sampling were submitted to the EPA and the WDNR in December 1996. No formal response was received from either agency.

In FY 1997, due to results above State standards in previous sampling rounds, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/ PCBs, and metals. After screening, results showed State criteria exceeded for vinyl chloride, iron, and manganese. PAL criteria were exceeded for benzene, 1,2-dichloroethane, methylene chloride, tetrachloroethene, trichloroethene, and arsenic. Results were reported to WDNR and EPA.

In FY 1998, due to results above State standards in previous sampling rounds, groundwater was sampled and tested for VOCs, SVOCs, and metals. After screening, results showed State criteria exceeded for 1,2-dichloroethane, methylene chloride, vinyl chloride, arsenic, iron, and manganese. PAL criteria were exceeded for benzene, tetrachloroethene,

trichloroethene, antimony, and barium. Results were reported to WDNR and EPA.

FY 2000 WORK: In FY 1999-2000, additional site investigation work was done. This included installation of a new background well and an off-site downgradient well. These wells, along with the existing site wells were sampled. Surface water and sediment samples were also collected from an adjacent wetland. All samples were analyzed for VOC, SVOCs, PCBs/pesticides, and metals. Selected contaminants of potential concern for human health include: Drinking Water - arsenic, cobalt, iron, manganese, thallium, bis(2-ethylhexyl)phthalate, and benzene; Aquatic Food Chain - arsenic. Contaminants of potential ecological concern include: Downgradient Surface Water via Groundwater - aluminum and mercury; Adjacent Wetland Surface Water - alpha-chlordane, gamma-chlordane, aluminum, barium, and manganese: Adjacent Wetland Sediments - cadmium, copper, mercury, nickel, and zinc.

Site characterization work and an EE/CA are planned for FY 2001.

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FACILITY: **Coghlan Island, Sitka Office, Tongass National Forest, Auke Bay, Alaska**

STATUS: Docket. Non-NPL. (Listed on the September 27, 1991 docket). A PA has been sent to the EPA. The EPA issued a No Further Response Action Planned finding for this facility on July 9, 1993.

NARRATIVE: This site is on National Forest System land but is operated by the Federal Aviation Administration under a special-use permit for navigation aids to aircraft. The FAA has submitted a PA on this site to the EPA. The PA identified three areas needing further investigation to determine the type and extent of soil contamination detected. This was done, and the EPA issued a No Further Response Action Planned finding on July 9, 1993. The FAA has given the cleanup a low priority based upon the findings of the investigations. In FY 1997, two above ground storage tanks and associated pipeline were removed. Petroleum-contaminated soil was excavated and shipped to Juneau for disposal. One new AST was installed. A final Release Investigation Report concluded that all the petroleum-contaminated soil associated with the tank replacement was not remediated.

FY 2000 WORK: The FAA has given the remaining cleanup a low priority and no work was conducted in FY 2000. Cleanup levels are under review and no work is planned until at least FY 2002.

FACILITY: **Duncan Canal Indian Point Federal Aviation Administration Station, Petersburg Office, Tongass National Forest, Kupreanof Island, Alaska**

STATUS: Docket. Non-NPL. (Listed on the September 1991 docket). A PA has been sent to the EPA. The EPA issued a No Further Response Action Planned finding for this facility on May 20, 1993.

NARRATIVE: This site is on National Forest System land but is a site formerly operated by the FAA under a special-use permit for navigation aides to aircraft. The FAA has submitted a PA on this site to the EPA. The PA identified several locations needing further investigation to determine the type and extent of soil and surface water contamination. This was done and the EPA issued a No Further Response Action Planned finding on May 20, 1993. Contamination at the site consists primarily of petroleum products.

The volume of contamination is estimated to be 50 cubic yards. In 1997, the site was gridded and sampled and contaminated soil was fertilized and roto-tilled as a means of in-situ bioremediation.

FY 2000 WORK: The site was re-sampled in 1998, with minimal change in contamination levels. The FAA plans to re-sample in FY 2001. The FAA has given the cleanup a low priority based upon findings of the investigations.

FACILITY: **Level Island VORTAC Site, Petersburg Office, Tongass National Forest, Big Level Island, Alaska**

STATUS: Docket. Non-NPL. (Listed on the September 1991 docket). A PA has been sent to the EPA. The EPA issued a No Further Response Action Planned finding for this facility on July 19, 1996.

NARRATIVE: This site is on National Forest System land but is operated by the FAA under a special-use permit for navigation aids to aircraft. The FAA has submitted a PA on this site to the EPA. The PA identified several locations needing further investigation to determine the type and extent of soil and surface water contamination. The EPA requested an Expanded Site Inspection (SI). An Expanded SI Work Plan/Interim Cleanup Plan was completed and approved by the EPA and the Alaska Department of Environmental Conservation and was submitted to the Forest Service in April 1994. Interim cleanup and tank removal work was completed in FY 1995.

FY 2000 WORK: No actions were taken this fiscal year. The FAA plans to do additional sampling on the stockpiled contaminated soil in anticipation of onsite thermal remediation. Date for further action has not been determined by FAA.

FACILITY: **Thorne Bay Landfills, Ketchikan Area, Tongass National Forest, Thorne Bay, Alaska**

STATUS: Docket. Non-NPL. (Listed on the February 1993 docket). A PA and Site Inspection have been sent to the EPA. An Action Memo declaring the need for a time-critical removal was signed in June 1996. The Forest Service negotiated with a PRP to implement the time-critical removal that is complete.

NARRATIVE: This site is a closed landfill located on National Forest System lands. A timber sale operator formerly operated the landfill and the City of Thorne Bay subsequently operated it. The Forest Service submitted a PA on this site to the EPA. The PA identified several locations needing further

investigation to determine the type and extent of soil and surface water contamination. The EPA requested an Expanded SI. The EPA approved an Expanded SI Work Plan in November 1994 and fieldwork was completed in July 1995. Upon completion of the Expanded SI, it was determined that a time-critical removal action was necessary and an Action Memo was signed in June 1996. High levels of arsenic, iron, and zinc were detected in sediments and soils. Analytical date indicates that arsenic, iron, and polychlorinated biphenyls may be impacting surface waters, wetlands, and the Thorne Bay estuary. A Work Plan and design were prepared to implement the presumptive remedy of installing an impermeable membrane over a portion of the site. The site was secured and a closure order was issued. A PRP, Ketchikan Pulp Company, entered into a CERCLA Section 104 AOC with the Forest Service to perform the time-critical removal. Fieldwork was completed 1998.

FY 2000 WORK: A long-term water-monitoring plan is being negotiated with PRP. Surface water monitoring at the site was initiated based upon the draft plan. The Forest Service plans some exploratory geotechnical work in May 2001 to evaluate the need for groundwater monitoring at the site.

FACILITY: **Granite Mine, Chugach National Forest, 22 miles NE of Whittier, Alaska**

STATUS: Docket. Non-NPL. (Listed on the June 27, 1997 docket). A PA/SI has been sent to the EPA. On April 26, 1999 the EPA issued a letter directing the Forest Service to proceed with removal action as necessary for the site.

NARRATIVE: Observed at the site are releases of hazardous substances in tailings and sediments. These include antimony, arsenic, cadmium, copper, iron, lead, mercury, and zinc in the tailings impoundment and tidal lagoon at greater than three times background concentrations. Requests for information and inquiry into willingness to participate in a cleanup have been sent to PRPs and responses received. Removal PA/SI completed in FY 1996 and submitted to the EPA. EE/CA was initiated in FY 1999 and will be completed by April 2001.

FY 2000 WORK: Reviewed the PRP search and responses to information requests.

FACILITY: **Ross-Adams Mine (Bokan Mountain Mine), Ketchikan Office, Tongass National Forest, 33 Miles SW of Ketchikan on Prince of Wales Island, Alaska**

STATUS: Docket. Non-NPL. (Listed on the June 27, 1997 docket). A Removal PA has been sent to the EPA on November 27, 1998. The EPA has not

formally responded.

NARRATIVE: Observed at the site are releases of hazardous substances in waste rock. These include gamma radiation and radon in the waste rock at the beach, 300 level adit, 700 level adit and open pit at 900 feet, at greater than 180 times background concentrations. Requests for information and inquiry into willingness to participate in a cleanup have been sent to PRPs. Removal PA completed in FY 1998 and submitted to the EPA.

FY 2000 WORK: PRP search report is completed and information requests are being generated.

FACILITY: **Gold Standard Mine, Ketchikan Office, Tongass National Forest, 25 Miles North of Ketchikan on W side of Helm Bay, Alaska**

STATUS: Docket. Non-NPL. (Listed on the June 27, 1997 docket). A Removal PA has been sent to the EPA on November 27, 1998. The EPA has not responded.

NARRATIVE: Observed at the site are releases of hazardous substances in mine tailings and sediments. These include mercury and arsenic in the lower and upper tailings areas at greater than 10 times background concentrations. Requests for information and inquiry into willingness to participate in a cleanup have been sent to PRPs. Removal PA completed in FY 1998 and submitted to the EPA.

FY 2000 WORK: Review of PRP reports and responses to information requests is underway. EE/CA was initiated in FY 1999 and will be completed by April 2001.

FACILITY: **Salt Chuck Mine, Ketchikan Office, Tongass National Forest, 33 Miles SW of Ketchikan on Prince of Wales Island, Alaska**

STATUS: Docket. Non-NPL. (Listed on the June 27, 1997 docket). A Removal PA was sent to the EPA on November 27, 1998. The EPA has not yet responded.

NARRATIVE: Observed at the site are releases of hazardous substances in mine tailings, sediments and surface water. These include copper at greater than three times background concentrations. Requests for information and inquiry into willingness to participate in a cleanup were sent to PRPs. Removal PA completed in FY 1998 and submitted to the EPA.

FY 2000 WORK: Review of PRP reports is underway and information requests were been sent to the PRPs in 2001.

FACILITY: **Duncan Canal Former WACs Site, Petersburg Office, Tongass National Forest, 9 Miles WSW of Petersburg, Alaska**

STATUS: Docket. Non-NPL. (Listed on the June 27, 1997 docket).

NARRATIVE: Observed at the site are releases of hazardous substances in the lower camp site. These include petroleum, oil and lubricants in 55-gallon drums, and batteries at the residential area near the beach. The Air Force will initiate a PA/SI when out year funding is secured.

FY 2000 WORK: 75 barrels and 6 lead-acid car batteries were removed from the site. The FAA plans on conducting additional sampling to determine efficacy of bioremediation activities.

Appendix A
Sites With No Further Action Planned

The following 39 sites included in the FY 1997-99 Report to Congress are not included in this report:

Forest Service sites with no further action:

Arizona

BHP Spill; Tonto National Forest;
Phoenix, Arizona

Coconino Hydrochloric Acid Spill Time Critical Removal Action, Coconino National Forest, Flagstaff, Arizona

Grantham Cabin Lead Soil Removal; Tonto National Forest
Phoenix, Arizona

Regional Emergency Response
Pine Flats Picnic area; Cibola National Forest

Five illegal meth labs on two National Forests
Northern Arizona

Sycamore Creek Used Oil Spill; Tonto National Forest
Phoenix, Arizona

Tres Piedras Herbicide Spill
Arizona

California

Black Bob Mine Tailings, Los Piedras National Forest
Frazier Park

Domeland Wilderness Barrel Removal, Sequoia NF
Porterville, California

Drinkwater Gulch Mine, Inyo National Forest
Bishop, California

Eel River Sump, Mendocino National Forest
Willows, California

Idaho

McCrae Mine Site, Payette National Forest
Big Creek, Idaho

Indiana

Branchville Site, Hoosier National Forest
Tell City, Indiana

Michigan

Aldrin Disposal Site, Hiawatha National Forest
Raco, Michigan

Byers Lake Storage Shed, Hiawatha National Forest
Big Island Lake Wilderness, Michigan

Williams Landing, Hiawatha National Forest
Grand Island National Recreation Area, Michigan

Minnesota

15 Sanitary Landfills, Forest-wide, Chippewa National Forest
Cass Lake, Minnesota

Northwoods Landfill, Superior National Forest
Ely, Minnesota

Montana

Blackfoot Tailings, Helena National Forest,
Helena, Montana

Vosburg Mine, Helena National Forest,
Helena, Montana

Nevada

Black Beauty Mine, Humboldt-Toiyabe National Forest
Elko, Nevada

New Mexico

La Bajada Mine, Santa Fe National Forest
Santa Fe, New Mexico

Pecos Campgrounds Access Roads, Santa Fe National Forest
Santa Fe, New Mexico

Regionwide Illegal Dumps, Region 3
Albuquerque, New Mexico

12th Street Yard, Cibola National Forest
Albuquerque, New Mexico

Tres Piedras Herbicide Spill
New Mexico

Ohio

Webb Site, Wayne National Forest
Athens, Ohio

Oregon

Bailey Gulch Mercury Mine, Rogue River National Forest
Applegate, Oregon

Clearlake Cleanup, Mt. Hood National Forest Government
Camp, Oregon

Crescent RS Compound, Deschutes National Forest
Crescent, Oregon

Scott St. Compound, Deschutes National Forest
Bend, Oregon

Shiny Rock Mine, Willamette National Forest
Eugene, Oregon

Sisters Compound Clean up, Deschutes National Forest
Sisters, Oregon

Texas

Tara Longbell Site #3, Angelina National Forest
Lufkin, Texas

Utah

Grey Daun Mine, Manti-Lasal National Forest
San Juan County, Utah

Tanner Flats Campground/Smelter Site, Wasatch National Forest
Salt Lake City, Utah

Washington

Chinook Pass Work Center Cleanup, Wenatchee National Forest
Naches, Washington

White Pass Work Center Cleanup, Wenatchee National Forest,
Tieton, Washington

West Virginia

Dolly Sods Unexploded Ordinance (UXO), Monongahela National Forest,
Elkins, West Virginia